

MicroVAX 3100 Model 40 and Model 80

Operator Information

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This guide describes how to operate the MicroVAX 3100 Model 40 or Model 80.

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**Digital Equipment Corporation
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Preface

This manual describes how to operate the MicroVAX™ 3100 Model 40 or Model 80. It also contains information on using software storage devices, connecting the system to a network, and connecting hardware options to the system.

Audience

This manual is intended for anyone using a MicroVAX 3100 Model 40 or Model 80. It is written for both experienced and inexperienced users.

Structure of This Manual

This manual is divided into four chapters, two appendixes, a glossary, and an index:

- Chapter 1 describes the Model 40 and Model 80 system units.
- Chapter 2 describes how to use the software storage and loading devices that are internal to the system.
- Chapter 3 describes how to connect the system to a network.
- Chapter 4 describes how to connect hardware options to the system.
- Appendix A gives the list of associated and related documents.
- Appendix B describes how to handle and care for removable software storage media.
- The glossary defines some of the technical terms used in this manual.

Additional Information

See Appendix A for the list of associated and related documents.

Conventions

The following conventions are used in this manual:

Convention	Description
MONOSPACE	Text displayed on the screen is shown in monospace type.
boldface type	Boldface type in examples indicates user input. Boldface type in text indicates the first instance of terms defined either in the text, in the glossary, or both.
<i>italic type</i>	Italic type emphasizes important information, indicates variables, and indicates complete titles of manuals.
<i>nn nnn.nnn nn</i>	A space character separates digits in numerals with 5 or more digits. For example, <i>10 000</i> equals <i>ten thousand</i> .
<i>n.nn</i>	A period in numerals signals the decimal point indicator. For example, <i>1.75</i> equals <i>one and three-fourths</i> .
UPPERCASE	Words in uppercase indicate a command.
<i>n</i>	A lowercase italic <i>n</i> indicates the generic use of a number. For example, <i>19nn</i> indicates a 4-digit number in which the last 2 digits are unknown.
Note	A note contains information of special importance to the reader.
Caution	A caution contains information to prevent damage to the equipment.
Warning	A warning contains information to prevent personal injury.

MicroVAX 3100 Model 40 and Model 80 Hardware

This chapter describes the MicroVAX 3100 Model 40 and Model 80 system units. It describes the following:

- The system unit for the Model 40 and the Model 80
- Model 40 and Model 80 internal differences
- System unit icons
- Terminal settings

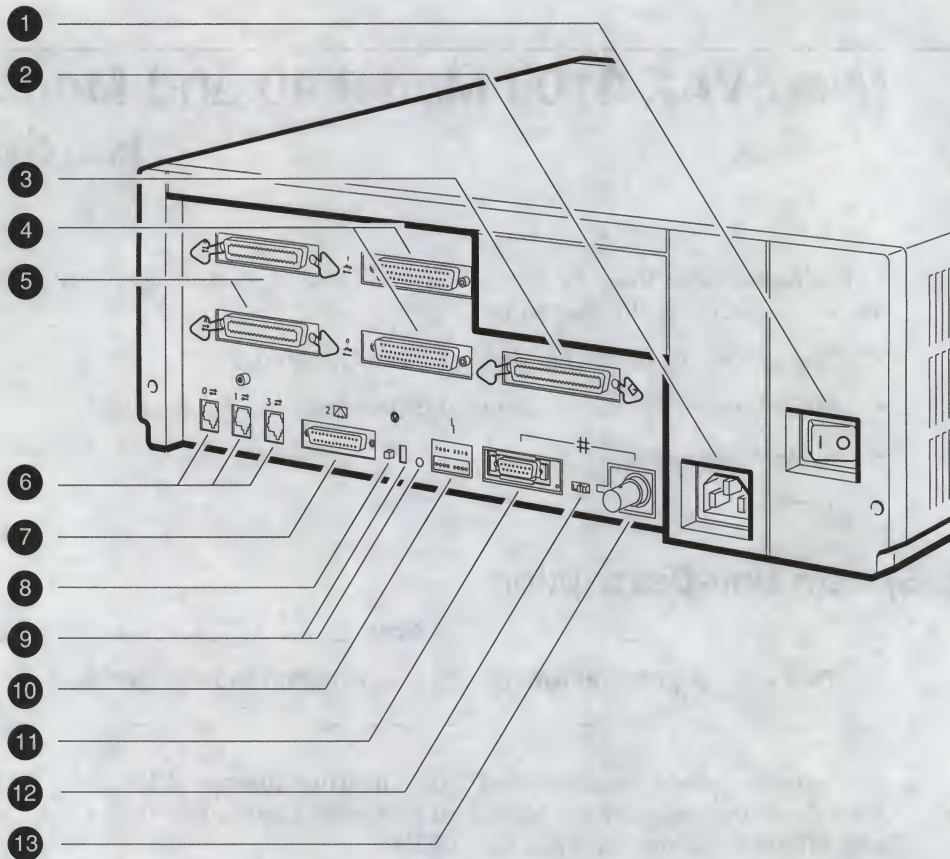
1.1 System Unit Description

Note

This section gives information that is common to both models.

The external ports, controls, and light emitting diodes (LEDs) are identical on both the Model 40 and the Model 80 systems. Figure 1-1 shows the Model 40 and Model 80 ports, controls, and LEDs.

Figure 1-1 Model 40 and Model 80 Ports, Controls, and LEDs



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- 1** On/Off Switch—This switch turns the system unit on or off. To turn the system on, set the on/off switch to the on (I) position. To turn the system off, set the on/off switch to the off (O) position.
- 2** System ac Power—This is the port through which ac power from the power source reaches the system unit.
- 3** SCSI Port—This is the port to which external small computer system interface (SCSI) storage devices connect to the system unit. The SCSI terminator is installed in this port when it is shipped.

- ④ **Optional Synchronous Communications Ports 0 and 1**—These are the ports to which you can connect the devices or options that use synchronous communications. Port 0 is on the bottom.
- ⑤ **Optional Asynchronous Communications Ports A and B**—These are the ports to which you can connect devices or options that use asynchronous communications. Port A is on the bottom.
- ⑥ **Modified Modular Jack (MMJ) Ports 0, 1, and 3**—These are the ports to which you can connect the console terminal, user terminal, printer or other devices that use asynchronous DEC423 data-line-only ports to the system unit.
- ⑦ **Asynchronous Modem Control Port (Port 2)**—This is the port at which you can connect a modem, terminal, printer, or other devices that use EIA-232 ports to the system unit.
- ⑧ **Halt Button**—This button halts the system and returns it from the operating system to console mode.
- ⑨ **Break/Enable Switch and LED**—When the break/enable switch is in the up position, MMJ port 3 becomes the console port and you can halt the system by pressing the break key on the console terminal keyboard. When the break/enable switch is in the up position, the LED is on. When the break/enable switch is in the down position, MMJ port 0 becomes the console port and the LED is off.
- ⑩ **Diagnostic LEDs**—The diagnostic LEDs (status LED display) indicate system and test status, and error conditions.
- ⑪ **Standard Ethernet Port**—This is the port to which standard Ethernet connects to the system unit.
- ⑫ **Network Select Switch**—This switch selects either ThinWire™ or standard Ethernet connection.

The system uses standard Ethernet when the network select switch is in the left-hand position. The system uses ThinWire Ethernet when the network select switch is in the right-hand position.

- ⑬ **ThinWire Ethernet Port**—This is the port to which ThinWire Ethernet connects to the system unit.

1.2 Model 40 and Model 80 Internal Differences

The Model 40 and the Model 80 use different central processing units (CPUs). The Model 80 CPU runs at twice the speed of the CPU in the Model 40.

The maximum internal memory capacity for the Model 80 is 72M bytes. The maximum internal memory capacity for the Model 40 is 32M bytes.

1.3 Terminal Settings

Terminals must have the following settings to communicate with the system unit:

Table 1-1 Terminal Settings

Feature	Setting
Terminal mode	VTnnn-7bit
Transmit speed	9600 baud
Receive speed	receive = transmit
Character format	8 bits, no parity
Stop bits	1
Comm1 port	DEC-423 (data-leads-only)

See the terminal documentation for more information on setting up the terminal.

1.4 System Unit Icons

Figure 1-2 shows the system unit icons.

Figure 1-2 System Unit Icons



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- ❶ This icon indicates optional asynchronous communications port A. A similar icon indicates the optional asynchronous communications port B.
- ❷ This icon indicates optional synchronous communications port O. A similar icon indicates the optional asynchronous communications port 1.
- ❸ This icon identifies the SCSI port.
- ❹ This icon identifies a DEC423 MMJ port O. Similar icons indicate MMJ ports 1 and 3.
- ❺ This icon identifies the asynchronous modem control port (port 2).
- ❻ This icon identifies the halt button.
- ❼ This icon identifies the status LED display.
- ❽ This icon identifies the standard Ethernet port, the network select switch, and the ThinWire Ethernet port.

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Internal System Devices

This chapter describes how to access and operate the internal devices that are options of the system. The system can contain the following optional devices:

- TZ30 tape drive
- TZK10 quarter-inch cartridge (QIC) tape drive
- RX26 diskette drive
- RRD42 compact disc drive

This chapter also gives information on the following:

- Cleaning device drive heads
- System disk

Note

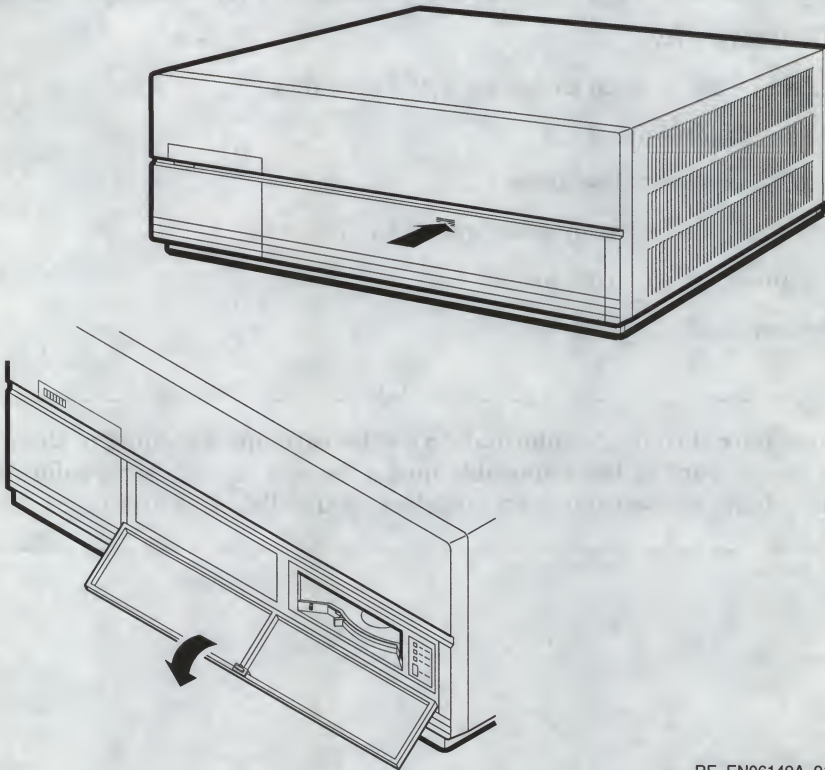
Appendix B contains information on the care and handling of the media types for each of the removable media devices. It also gives information on setting the write-protect switches on the diskettes and tapes.

2.1 Accessing the Removable Media System Devices

To access the system devices, follow these steps:

1. Position the system unit so that the front of it is facing you.
2. Open the cover by pushing it and then releasing it.

Close the cover when you are not using the system devices.



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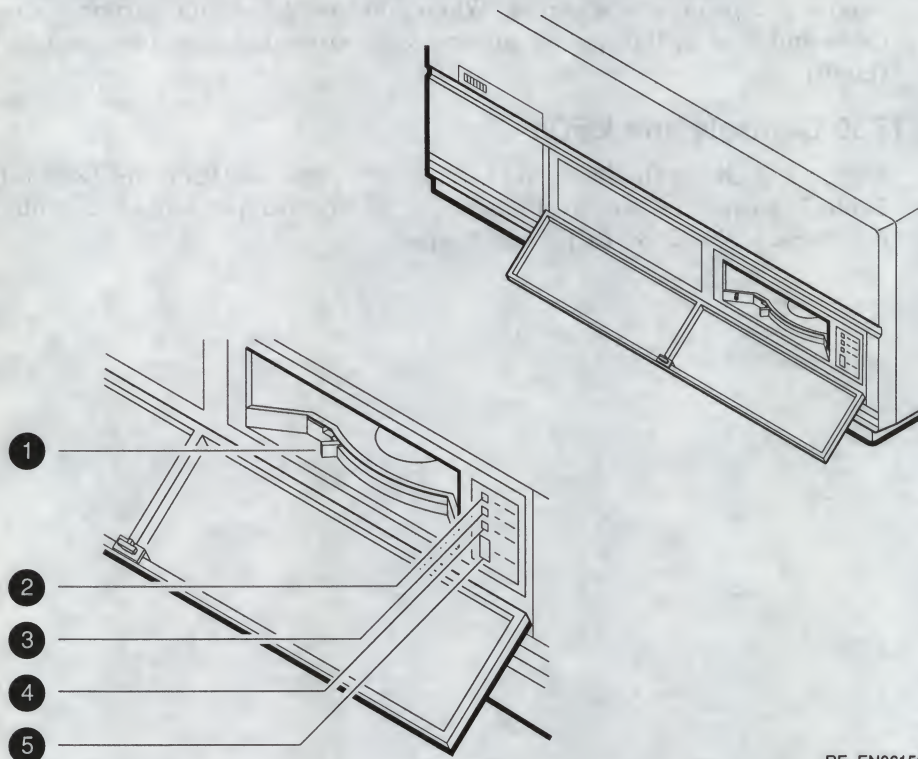
2.2 TZ30 Tape Drive

The TZ30 uses CompacTape™ or CompacTape II cartridges that contain magnetic tape on a single reel. When you insert the tape cartridge into the drive and load it, the tape is automatically threaded onto a take-up reel inside the drive.

2.2.1 TZ30 Controls and LEDs

Figure 2-1 shows the location of the controls and LEDs on the TZ30 tape drive. Table 2-1 explains the functions of the TZ30 controls. Table 2-2 explains the functions of the TZ30 LEDs and beeper.

Figure 2-1 TZ30 Tape Drive Controls and LEDs



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- ① Operate Lever
- ② Write-Protect LED (Red)
- ③ Tape-in-Use LED (Yellow)
- ④ Operate-Lever LED (Green)
- ⑤ Unload Button

Table 2-1 TZ30 Controls

Control	Function
Unload button	The unload button rewinds and disengages the tape from the take-up reel inside the TZ30. The tape must be completely rewound and unloaded into the tape cartridge before you can remove the tape cartridge from the drive. The tape is fully unloaded when the operate lever LED is on.
Operate lever ¹	Use the operate lever to lock or unlock a tape cartridge. To insert a tape cartridge, the operate lever must be in the unlock position. Once you insert a tape cartridge and the green LED is on, move the operate lever to the lock position. To eject the tape cartridge from the drive, (only when the green LED is on or flashing, and after the beeper sounds momentarily), move the operate lever to the unlock position.

¹When using the operate lever, slide it completely to the lock or unlock position before beginning the next operation.

Table 2-2 TZ30 LEDs

LED	State	Condition
Operate-lever LED	On	Safe to use the operate lever.
	Off	Do not use the operate lever.
	Flashing	The drive has detected a tape cartridge or calibration error.
Tape-in-use LED	Flashing	Tape in use.
	On	Tape loaded and ready to use.
Write-protect LED	On	Tape is write-protected.
	Off	Tape is write-enabled.
All three LEDs	On	The power-up diagnostic test is in progress.
All three LEDs	Flashing	Drive fault.
Beeper	One beep	The TZ30 beeps once when you turn on the system unit.
	Two beeps	Indicate that the tape is unloaded and you can remove it from the drive.

2.2.2 Inserting and Using a Tape Cartridge

To insert a tape cartridge, follow these steps:

1. Slide the operate lever to the unlock position.
2. Insert the tape cartridge following these rules:
 - If you insert the tape cartridge more than half-way into the drive, you must insert the tape cartridge fully.
 - If you want to use another tape cartridge, insert the tape cartridge fully, unload the tape cartridge, and then remove it.
 - If you cannot insert the tape cartridge into the TZ30, move the operate lever to the lock position. Then move the operate lever to the unlock position and reinsert the tape cartridge.
 - Do not push the tape cartridge into the TZ30 while moving the operate lever between the lock and unlock positions. If you do so, the TZ30 interprets this action as an insertion of the tape cartridge.

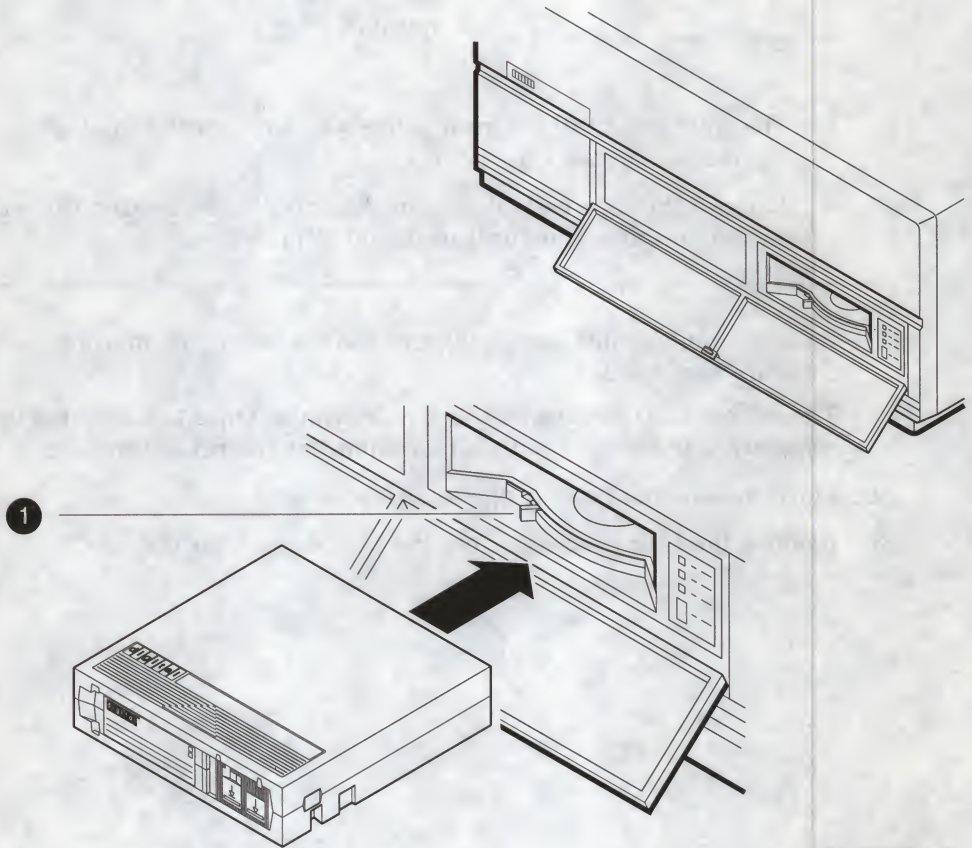
The green LED turns on.

3. Move the operate lever to the lock position to lock the tape cartridge in the drive.

The green LED turns off, and the yellow LED starts to flash, indicating that the tape is loading. When you load the tape and it is ready for use, the yellow LED stays on. When the yellow LED stays on and the green LED stays off, the tape is ready to use.

See the *MicroVAX 3100 Model 40 and Model 80 Troubleshooting and Diagnostic Information* manual if errors occur while you are using the TZ30 tape drive.

Figure 2-2 Inserting a Tape Cartridge



- 1 Operate Lever

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2.2.3 Removing a Tape Cartridge from the Drive

To remove a tape cartridge, follow these steps:

Caution

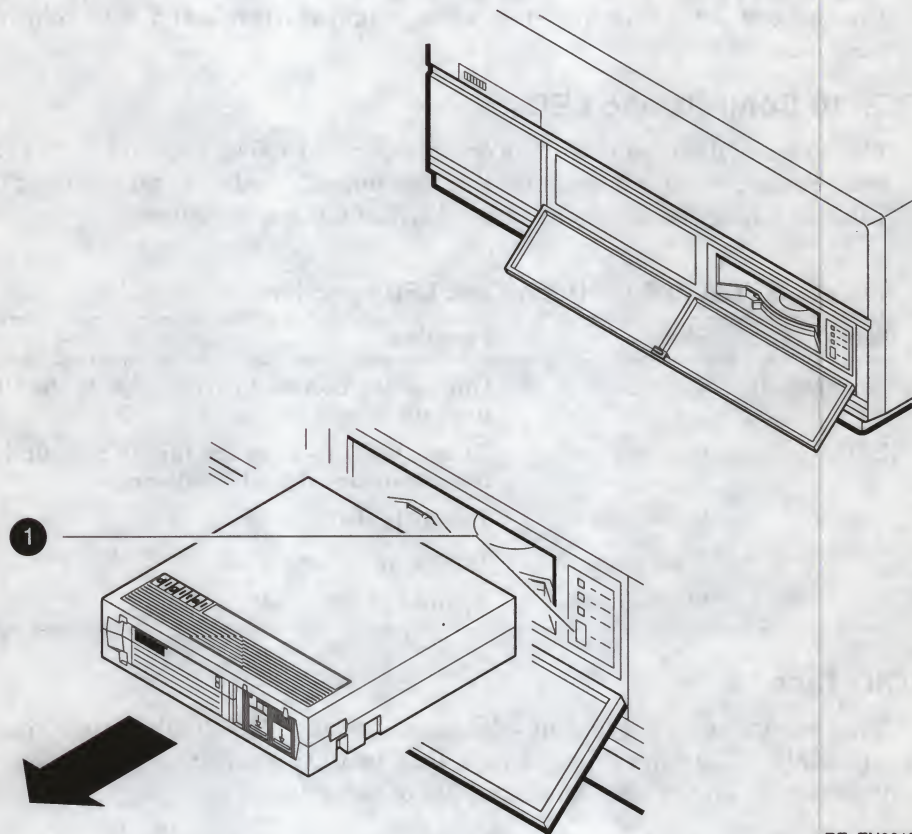
- The tape must fully rewind before you can remove the tape cartridge from the tape drive.
 - Remove the tape cartridge from the drive before setting the on/off switch on the system unit to the off (O) position.
-

1. Press the unload button (see Figure 2-3) or enter the appropriate system software command.

The yellow LED flashes as the tape rewinds. Once the tape rewinds completely, the beeper sounds twice and the green LED turns on.

2. Move the operate lever to the unlock position.
3. Remove the tape cartridge from the tape drive after it ejects.

Figure 2-3 Removing a Tape Cartridge



1 Unload Button

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2.3 TZK10 QIC Tape Drive

The TZK10 QIC tape drive is a quarter-inch cartridge, streaming tape drive. You can use it for archival, data storage and retrieval, and data collection purposes.

2.3.1 TZK10 Controls and LEDs

The TZK10 QIC tape drive has one dual-color LED (green and amber) and an eject button. Figure 2-4 shows the positions of the LED and the eject button. Table 2-3 lists the functions of the LED and the eject button.

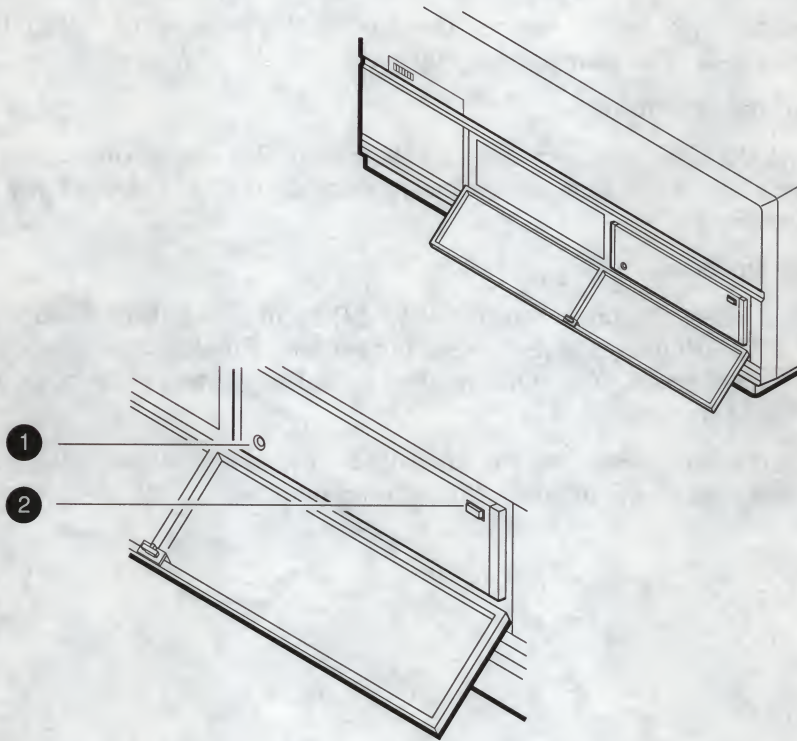
Table 2-3 TZK10 Eject Button and LED Functions

Item	State	Function
Eject button		Unlocks the door and partially ejects the QIC tape from the drive.
LED	Off	Tape is not present or the tape is present, but it has been dismounted by the software.
	Stays green	Tape is loaded.
	Flashes green	Tape is in motion.
	Stays amber	A fault has occurred.

2.3.2 QIC Tape

You can use several types of QIC tape with the TZK10 QIC tape drive. Appendix B lists the types of tape that you can use. It also includes information on the care and handling of these tapes.

Figure 2-4 TZK10 Eject Button and LED



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- ❶ Dual-Color LED
- ❷ Eject Button

2.3.3 Inserting a QIC Tape into the TZK10

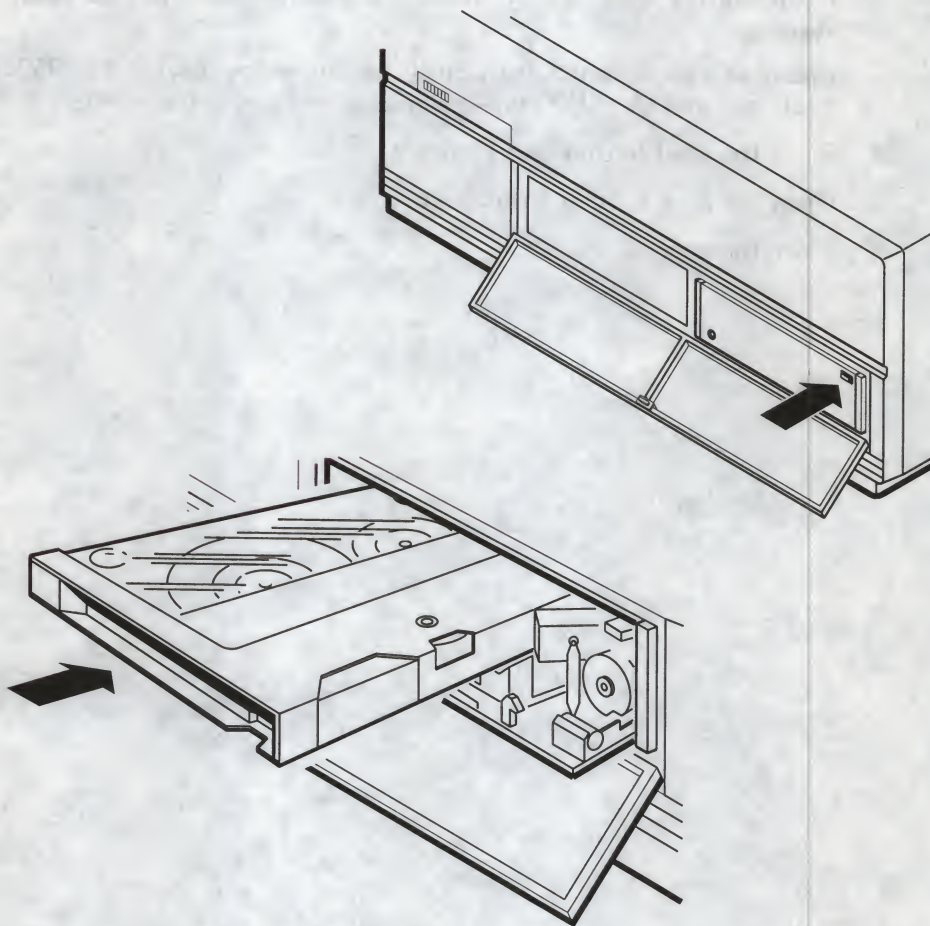
To insert a QIC tape into the TZK10, follow these steps:

1. Press the eject button to open the door on the front of the TZK10 (see Figure 2-5). The door partially opens.
2. Open the door fully.
3. Insert the QIC tape into the TZK10. Figure 2-5 shows the correct orientation of the tape as you insert it. Slide the tape in until you feel resistance.
4. Close the door.

When you insert the tape correctly, the LED turns green, then flashes green while the TZK10 makes several whirring sounds. Finally, the sounds stop and the LED stays green. You can now send operating system commands to the TZK10 QIC tape drive.

If the LED turns amber, see the *MicroVAX 3100 Model 40 and Model 80 Troubleshooting and Diagnostic Information* manual.

Figure 2-5 Inserting a QIC Tape



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2.3.4 Removing a QIC Tape from the TZK10

To remove a QIC tape from the TZK10, follow these steps:

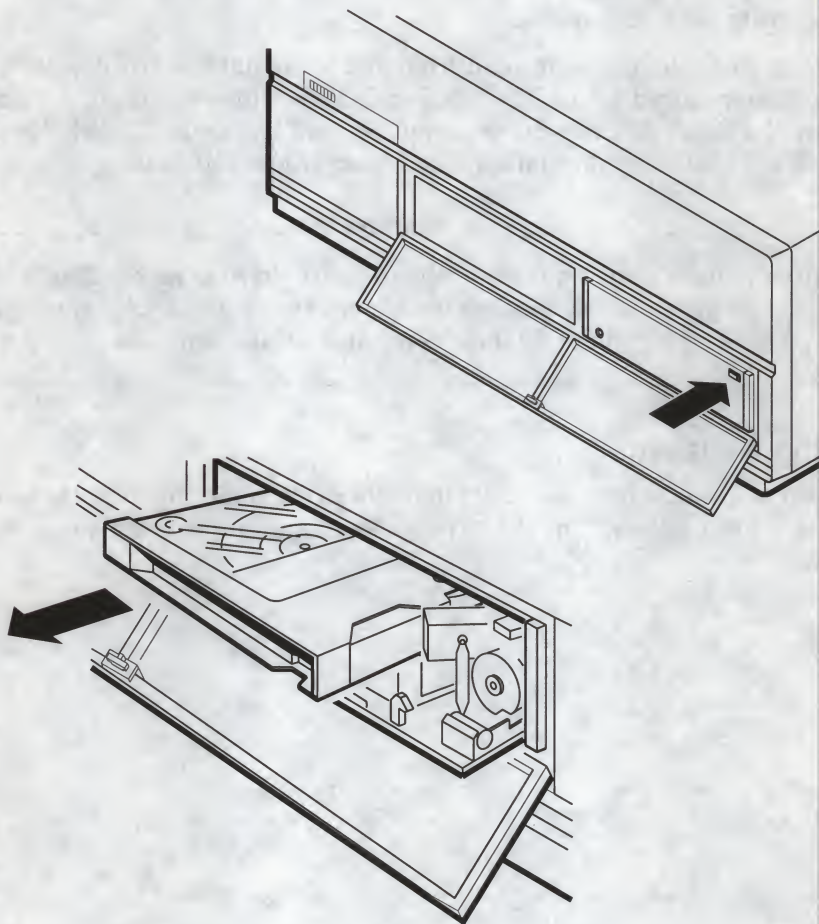
1. Dismount the QIC tape by entering the commands from the operating system.

Before you go to step 2, wait until the tape stops moving (the TZK10 stops whirring) and the LED stops flashing green and stays green.

2. Press the eject button (see Figure 2-6).
3. Open the door fully and remove the tape.
4. Close the door.



Figure 2-6 Removing a QIC Tape



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2.4 RX26 Diskette Drive

The RX26 diskette drive allows you to read information from and write information to 3.5 inch removable diskettes. You can use high-density (HD) or extra-density (ED) diskettes.

The RX26 diskette drive can read from and write data to HD diskettes that have been formatted by an RX23 diskette drive. However, the ED diskettes used by the RX26 diskette drive cannot be used by the RX23 diskette drive. Appendix B contains information about both types of diskette.

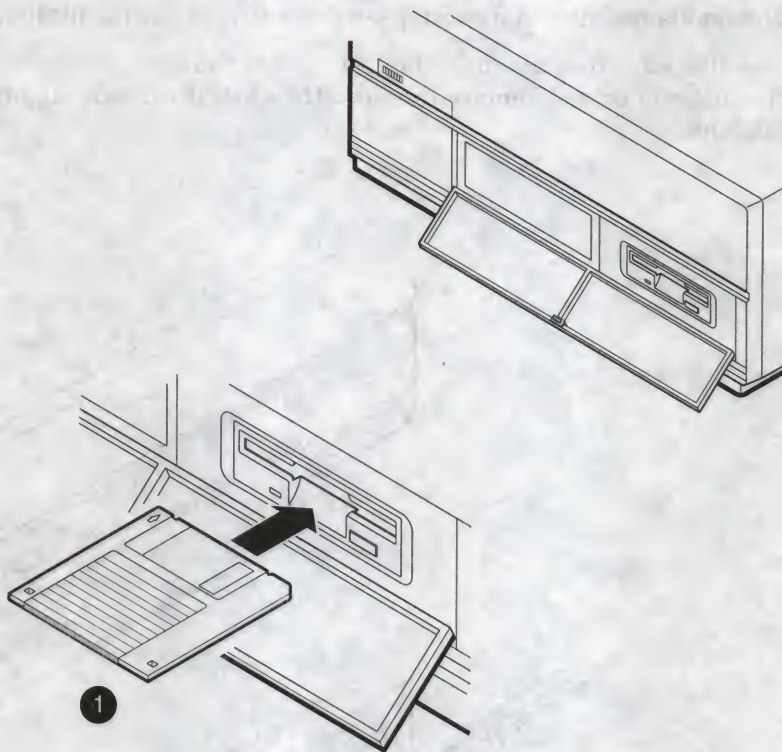
Caution

Never remove a diskette while the diskette drive is performing a function. When the diskette drive is performing a function, the activity LED either stays on or flashes, depending on the function.

2.4.1 Inserting a Diskette

To insert a diskette into the RX26 diskette drive, slide the diskette into the drive (see Figure 2-7). The diskette slides in and drops down to its load position.

Figure 2-7 Inserting a Diskette



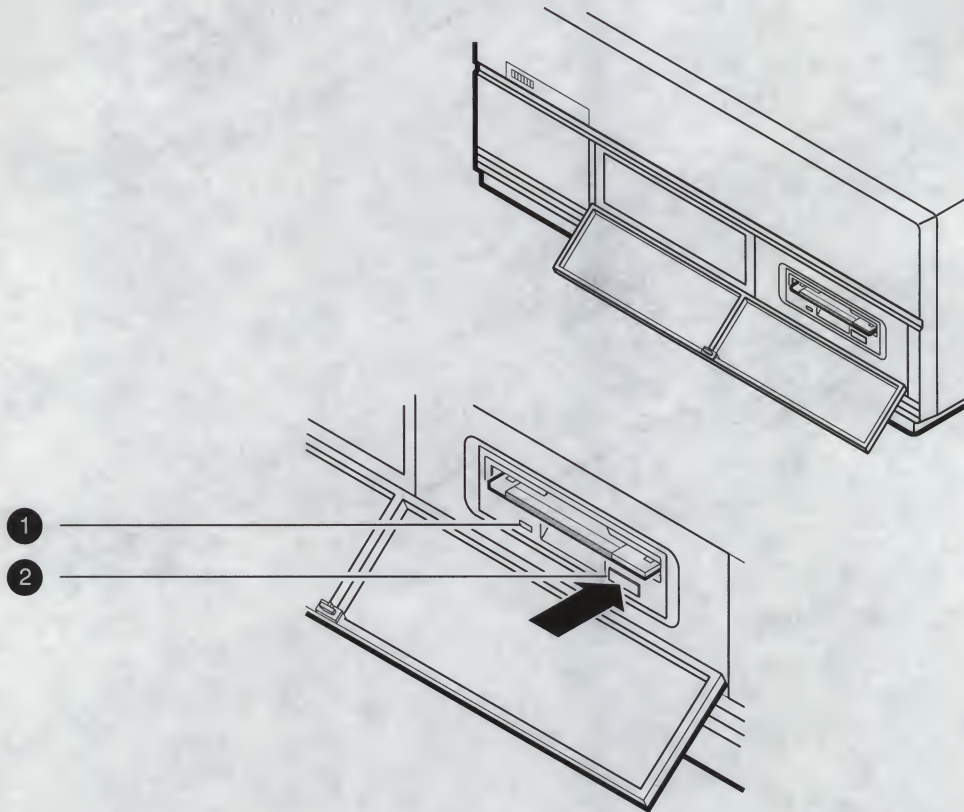
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1 Diskette

2.4.2 Removing a Diskette

You must dismount the diskette drive before removing a diskette. For information on dismounting a diskette, see the software documentation.

To remove a diskette from the diskette drive, press the eject button on the front of the diskette drive. Remove the diskette when it extends slightly from the diskette slot.



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- ❶ Activity LED
- ❷ Eject Button

2.5 RRD42 Compact Disc Drive

The RRD42 compact disc drive is a read-only device that can read information from 600M-byte compact discs. The compact disc fits into a supplied caddy, which you insert into the drive.

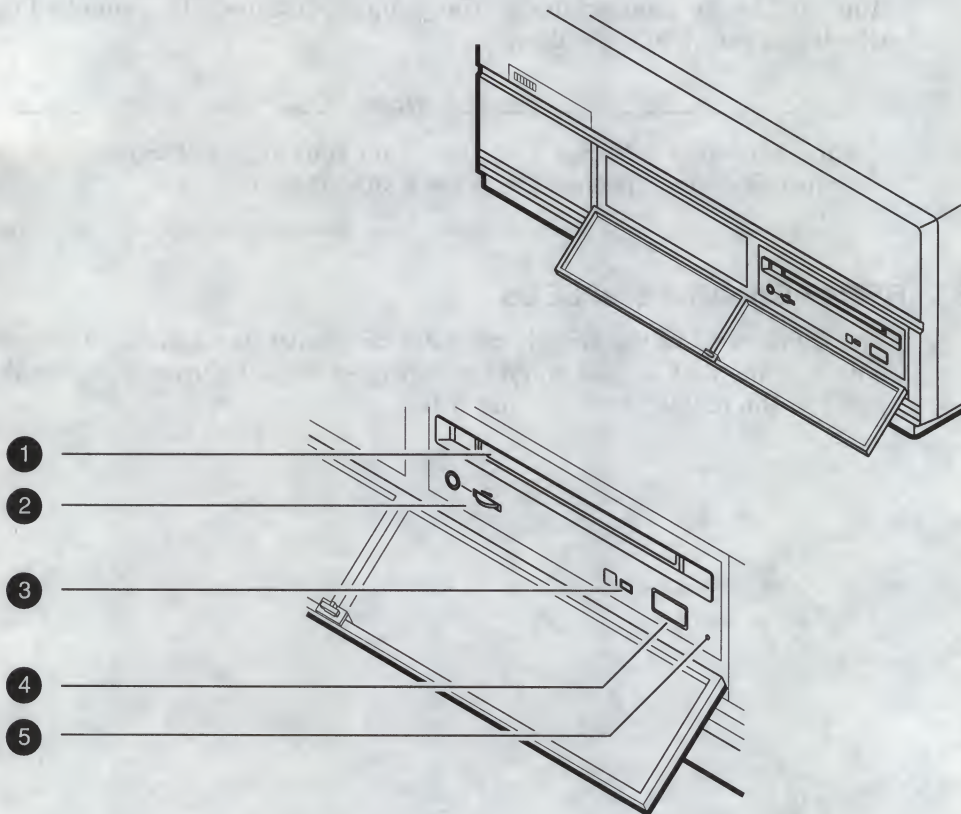
Note

You can order additional caddies from your Digital™ Sales representative. The part number is 30-34512-01.

2.5.1 RRD42 Controls and LEDs

The front panel of the RRD42 compact disc drive has a disc slot, an eject button, a busy LED, and an emergency eject hole. Figure 2-8 shows the front panel of the RRD42 compact disc drive.

Figure 2-8 RRD42 Compact Disc Drive Front Panel



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- ❶ Disc Slot.
- ❷ Volume Control and Headphone Socket—Not used.
- ❸ Busy LED—This LED turns on when data is read from the disc. It flashes during seek operations.
- ❹ Eject Button—Press this button to eject the caddy from the RRD42.
- ❺ Emergency Eject Hole—Use the emergency eject hole to manually eject the caddy if a power failure occurs (see Section 2.5.3).

2.5.2 Inserting a Compact Disc into the RRD42 Compact Disc Drive

Inserting a compact disc involves two stages:

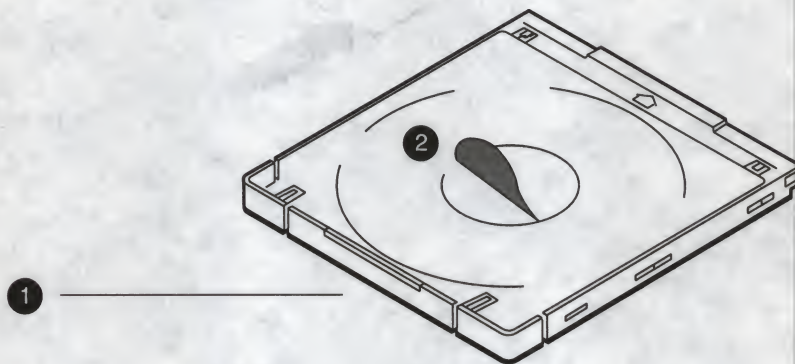
- Loading the compact disc into the caddy
- Inserting the caddy into the RRD42

These stages are described in the following subsections.

Loading the Compact Disc into the Caddy

To load the compact disc into the caddy, follow these steps:

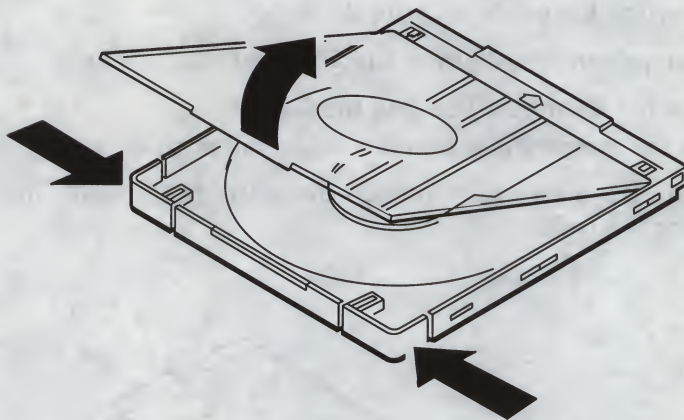
1. If there is a protective film on the center of the caddy lid, remove it before using the caddy.



- ① Disc Caddy
- ② Protective Film

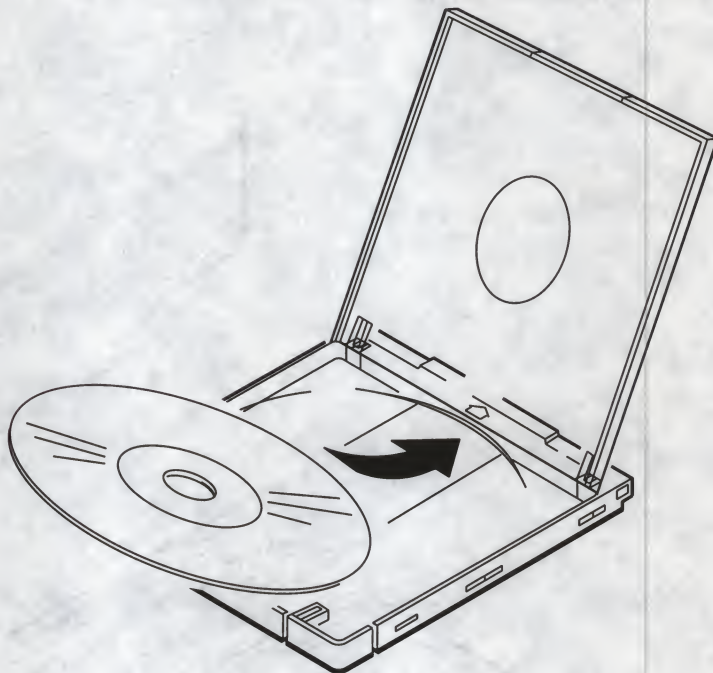
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2. Open the lid of the caddy by pressing the tabs on both sides of the caddy. These tabs are marked with an arrowhead and the word *open*.



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3. Place the compact disc in the caddy. The disc label must face upwards.

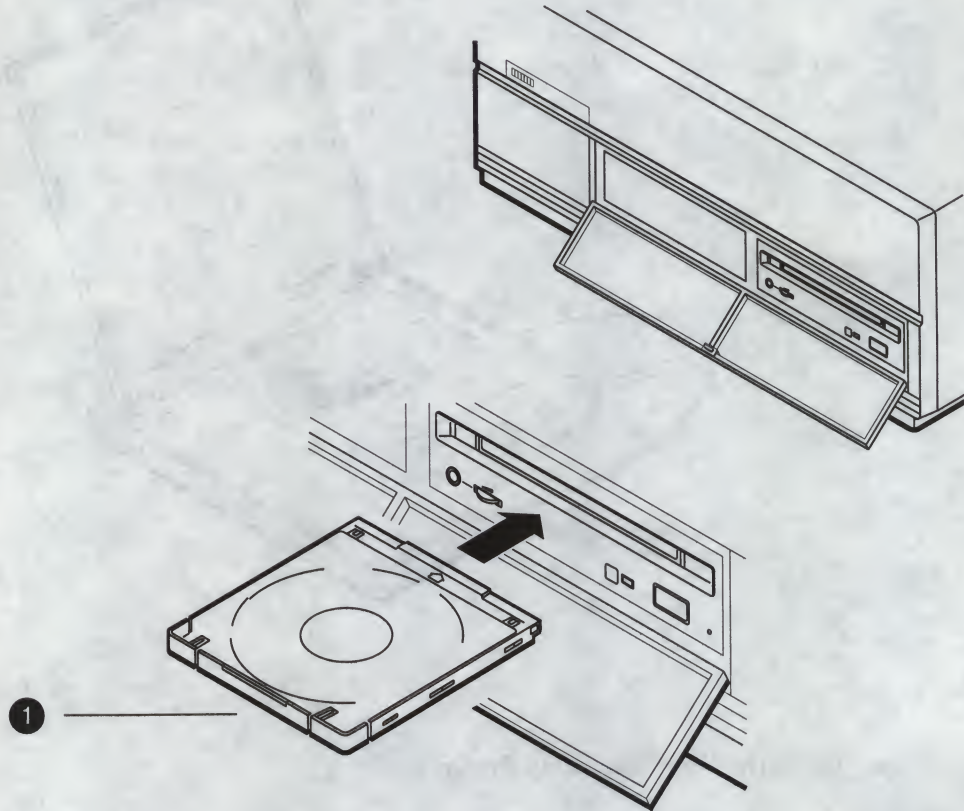


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4. Close the lid of the caddy firmly.

Inserting the Caddy into the RRD42

Insert the caddy into the slot on the front of the RRD42 with the disc label facing upwards. Push the caddy until it is completely inserted.



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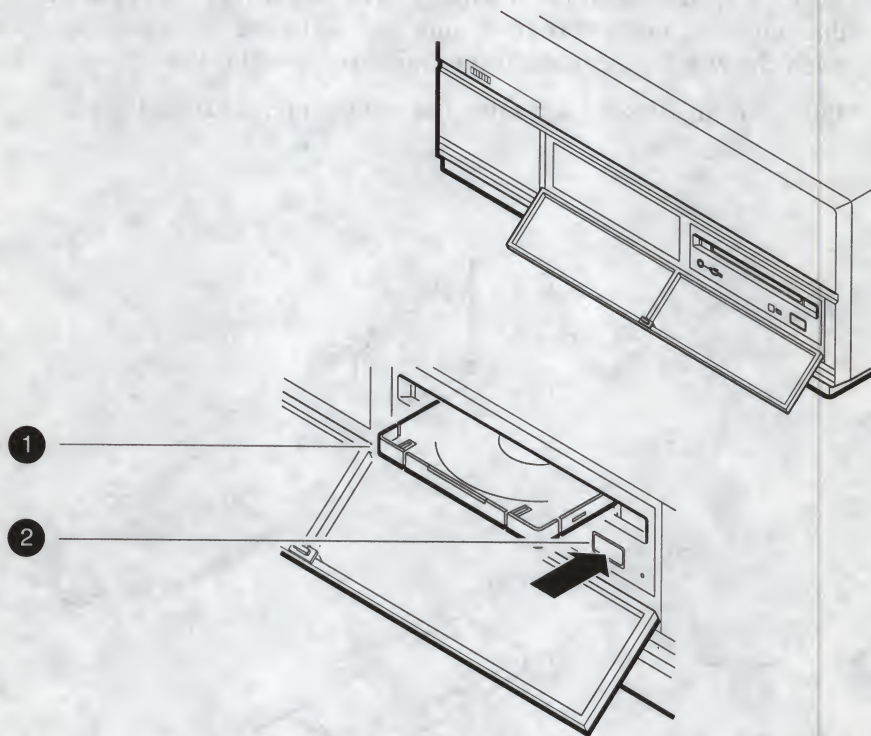
1 Disc and Disc Caddy

The busy LED then stays on for a few seconds. When the busy LED goes off, the RRD42 can receive commands and you can read data from the compact disc.

The RRD42 ejects the compact disc if the disc is upside-down, not properly inserted in the caddy, or if other conditions prevent it from reading the disc.

2.5.3 Removing the Caddy from the RRD42

Press the eject button on the front of the RRD42 to remove the caddy.



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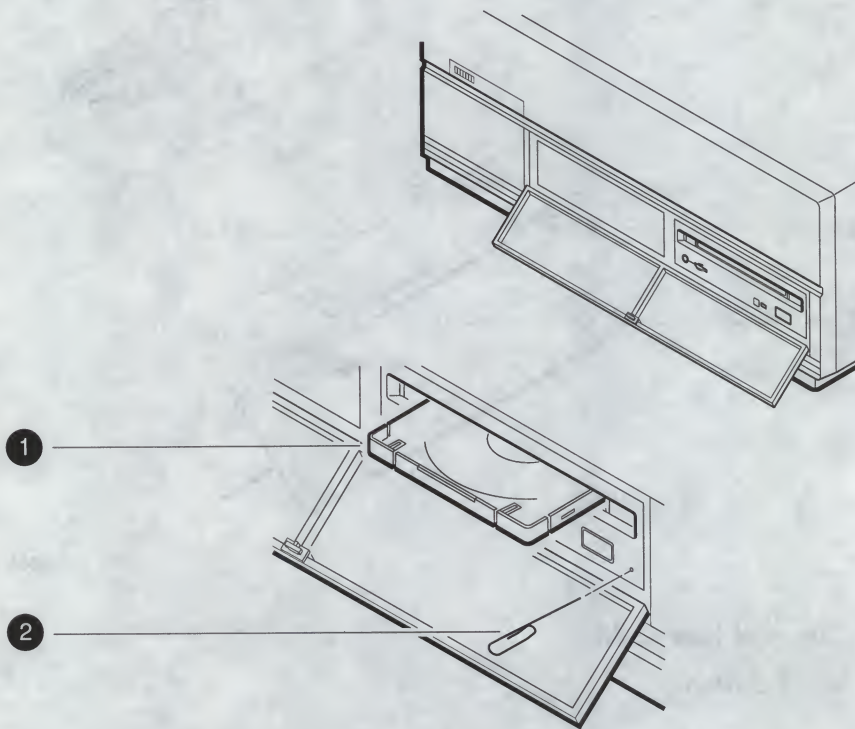
- ❶ Disc and Disc Caddy
- ❷ Eject Button

If the eject button is disabled by software, you must manually remove the caddy.

Removing a Caddy Manually

To remove a caddy manually from the RRD42, follow these steps:

1. Set the on/off switch on the system unit to the off (O) position.
2. Insert a straightened large paper clip or metal rod, 1.2 millimeters (mm) in diameter and not less than 35 mm long, into the emergency eject hole and push the clip or rod in until the caddy rises in the slot.
3. Push the clip or rod hard until the caddy emerges from the slot.



RE_EN06161A_91

- ① Disc and Disc Caddy.
- ② Paper Clip—Insert the clip 35 mm into the emergency eject hole.

2.6 Cleaning Device Drive Heads

This section describes the cleaning recommendations for the drive heads of the following devices:

- TZ30 tape drive
- TZK10 QIC drive
- RX26 diskette drive

The heads are the components of the drives that read data from and write data to the media. Digital recommends that, when cleaning the heads, you use the following Digital-supplied cleaning kits:

- TZ30—Use the TKXX-HC head cleaning kit.
- TZK10—Use the TZK1X-HA head cleaning kit.
- RX26—Use the RXA3K-HC head cleaning kit.

To clean the heads, follow the instructions supplied with the cleaning kit.

Digital recommends that you clean the heads after approximately 8 hours of use or if you encounter problems reading or writing data. The following factors affect the cleaning interval:

- Frequency of use
- Quality of the tape
- Quality of the environment

2.7 System Disk

The system unit contains at least one hard disk. You cannot physically access the hard disk. This hard disk, called the system disk, holds the factory installed software (FIS). FIS is a VMS™ operating system, which is installed before the system is shipped. However, you can use an operating system stored in a different location if you prefer. See the *VMS Factory Installed Software User Guide* for more information on using VMS FIS.

Network Information

This chapter describes how to connect the system unit to a network and how to disconnect it from a network. It includes information on the following:

- Selecting the Ethernet type
- Connecting the system unit to a ThinWire Ethernet network
- Connecting the system unit to a standard Ethernet network
- Connecting the system unit to a DECconnect™ faceplate
- Testing the Ethernet installation
- Completing the Ethernet installation
- Removing the system unit from a network

This chapter may contain some terms that are unfamiliar to you. These terms are defined in the glossary.

If you have never connected a computer to an Ethernet network, you may need help from a system manager or a network co-ordinator. If a system manager or network co-ordinator is not available, contact your Digital Services representative.

Caution

Disconnecting Ethernet cables and terminators from the T-connectors on active Ethernet networks disrupts local network communications.

3.1 Selecting the Ethernet Type

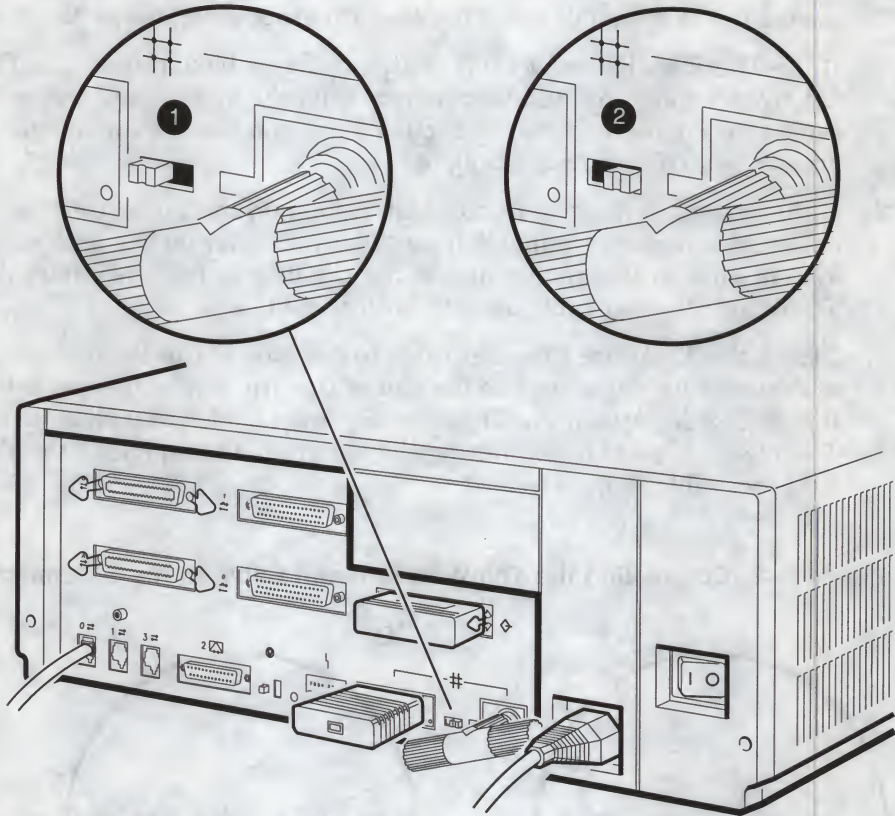
You can connect the system unit to either a ThinWire Ethernet or a standard Ethernet network. Before starting to connect the system unit to the network, ask the network co-ordinator to tell you which network type to use with the system.

The system unit has a network select switch that you must set depending on which Ethernet type you want to use. When you know which Ethernet type you want to use, set the network select switch as follows:

1. Set the system unit on/off switch to the off (O) position.
2. Set the network select switch to the correct position:
 - If you are using ThinWire Ethernet, slide the network select switch to the right-hand position (see Figure 3-1).
 - If you are using standard Ethernet, slide the network select switch to the left-hand position (see Figure 3-1).

Go to Section 3.4 if you are connecting the system to a standard Ethernet network.

Figure 3-1 Network Select Switch Positions



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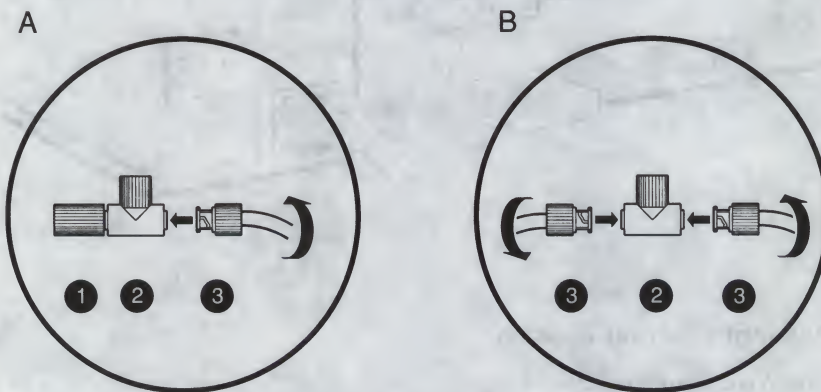
- ① Standard Ethernet Position**
- ② ThinWire Ethernet Position**

3.2 Connecting the System Unit to a ThinWire Ethernet Network

To connect the system unit to a ThinWire Ethernet cable, follow these steps:

1. If the ThinWire Ethernet cable is already assembled, remove the ThinWire Ethernet T-connector and terminators from the system and connect the cable (see Figure 3-3). Go to Section 3.5 if you are not connecting the system to a DECconnect faceplate.
2. If the system unit is the first or last system on the ThinWire Ethernet cable, remove one terminator from the T-connector on the back of the system unit. If the system unit is not the first or last system on the ThinWire Ethernet cable, remove both terminators.
3. Attach the ThinWire Ethernet cable to one side of the T-connector if you are connecting the system to the end of the ThinWire Ethernet cable (see Figure 3-2 A). Attach the ThinWire Ethernet cables to both sides of the T-connector if you are connecting the system to the middle of the ThinWire Ethernet cable (Figure 3-2 B).

Figure 3-2 Connecting the ThinWire Ethernet Cable to the T-Connector

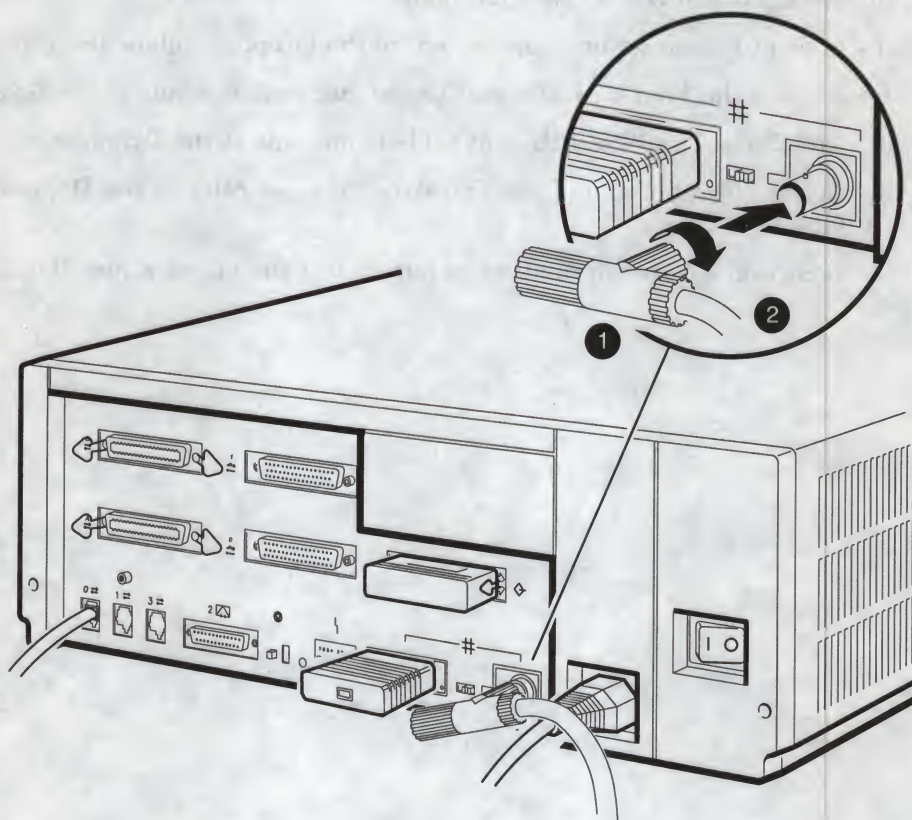


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- ① Terminator
- ② T-Connector
- ③ ThinWire Ethernet Cable Connector

Go to Section 3.5 if you are not connecting the system to a DECconnect faceplate.

Figure 3-3 Connecting the ThinWire Ethernet Cable to the System Unit



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- ❶ T-Connector
- ❷ ThinWire Ethernet Cable

3.3 Connecting the System Unit to a DECconnect Faceplate

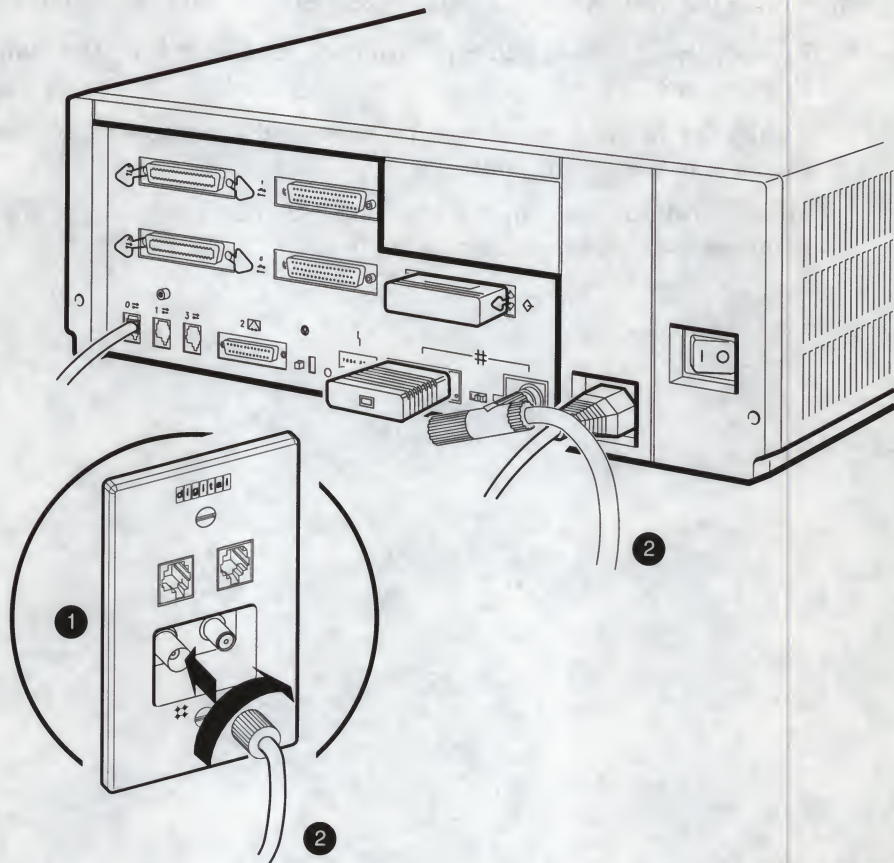
If DECconnect products are installed, a DECconnect faceplate may be on the wall. You can connect VAX™ systems to DECconnect faceplates using different methods. You can connect either a single VAX system or connect several VAX systems in series. Ask the network co-ordinator for advice on how to connect the system to the DECconnect faceplate.

If you want to connect only one system to the faceplate, follow these steps:

1. Remove the ThinWire Ethernet terminator from one side of the T-connector.
2. Attach the ThinWire Ethernet cable to one side of the T-connector.
3. Attach the other end of the ThinWire Ethernet cable to the DECconnect faceplate.

Go to Section 3.5 for information on how to test the network installation.

Figure 3-4 Connecting the System Unit to a DECconnect Faceplate



- ❶ DECconnect Faceplate
- ❷ ThinWire Ethernet Cable

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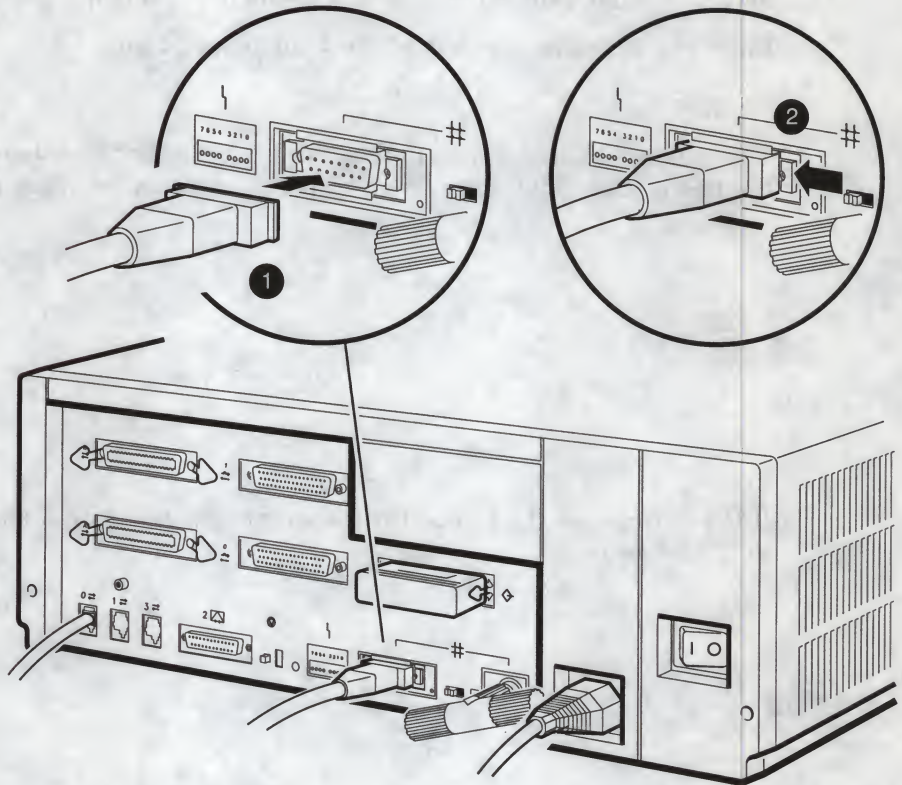
3.4 Connecting the System Unit to a Standard Ethernet Network

To connect the system unit to a standard Ethernet network, follow these steps:

1. Remove the standard Ethernet loopback connector from the standard Ethernet port.
2. Attach the 15-pin connector on the standard Ethernet transceiver cable to the back of the system unit.
3. Move the sliding lock on the standard Ethernet connector to the left, securing the standard Ethernet connection.



Figure 3–5 Connecting a Transceiver Cable



RE_EN06164A_91

- ❶ Standard Ethernet Transceiver Cable
- ❷ Sliding Lock

3.5 Testing the Ethernet Installation

When you complete the network installation procedure, follow these steps:

1. Set the system unit on/off switch to the on (|) position.
2. Enter the following command to test the installation:

```
>>> TEST 9
```

The number 9 is the device number associated with the Ethernet device. If the test is successful, the system responds with the following display:

```
>>> TEST 9
```

```
OK
```

```
>>>
```

If the device fails the self-test, the system responds with a display similar to the following:

```
>>> TEST 9
```

```
?? 001 9 NI 0172
```

```
84 FAIL
```

```
>>>
```

If the device fails, see the *MicroVAX 3100 Model 40 and Model 80 Troubleshooting and Diagnostic Information* manual.

3.6 Completing the Ethernet Installation

The network co-ordinator must complete the installation. You must give the following information to the network co-ordinator:

- A unique node name comprised of a maximum of six alphanumeric characters

Choose any node name and ask the network co-ordinator to make sure that the node name is unique on the network.

- The system's Ethernet address

To determine the system's Ethernet address, follow these steps:

1. Enter the following command at the console prompt:

```
>>> SHOW ETHERNET
```

The system displays a response similar to the following:

```
ETHERNET = 08-00-2B-1A-0B-BB
```

The alphanumeric string, shown in the form *nn-nn-nn-nn-nn-nn*, is the Ethernet address.

2. Write down the Ethernet address and give it to the network co-ordinator.

3.6.1 If the Network Installation Fails

If the network installation fails, contact your Digital Services representative.

3.7 Removing the System Unit from a Network

The following subsections describe how to remove the system unit from a network.

Note

Before removing the system unit from a network:

- Get the approval of the network co-ordinator.
 - See the operating system documentation for information on the shutdown procedures before stopping or turning off the system.
 - If the system is the server in a network, do not turn off, halt or restart the system without notifying the other network members.
-

3.7.1 Removing the System Unit from a ThinWire Ethernet Cable

To remove the system unit from a ThinWire Ethernet cable, follow these steps:

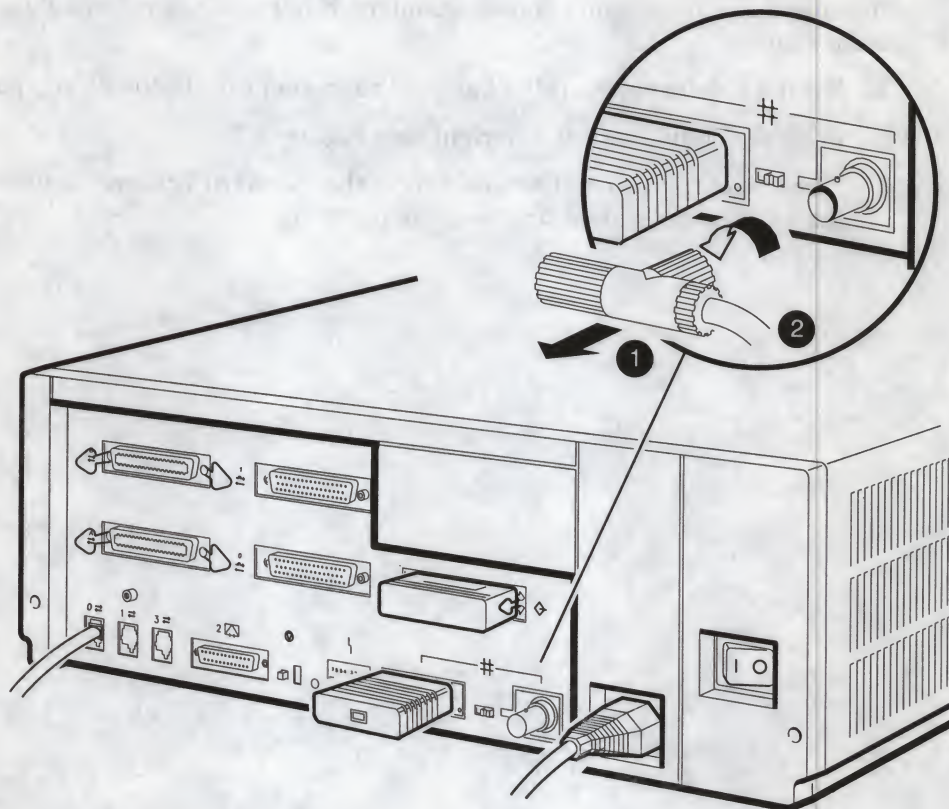
1. Set the on/off switch on the back of the system unit to the off (O) position.

Caution

Disconnecting the ThinWire Ethernet terminator or the ThinWire Ethernet cable connectors from the T-connector causes disruptions to network communications.

2. Disconnect the center of the T-connector from the ThinWire Ethernet connector on the back of the system unit (see Figure 3–6).

Figure 3-6 Disconnecting the System Unit from a ThinWire Ethernet Cable



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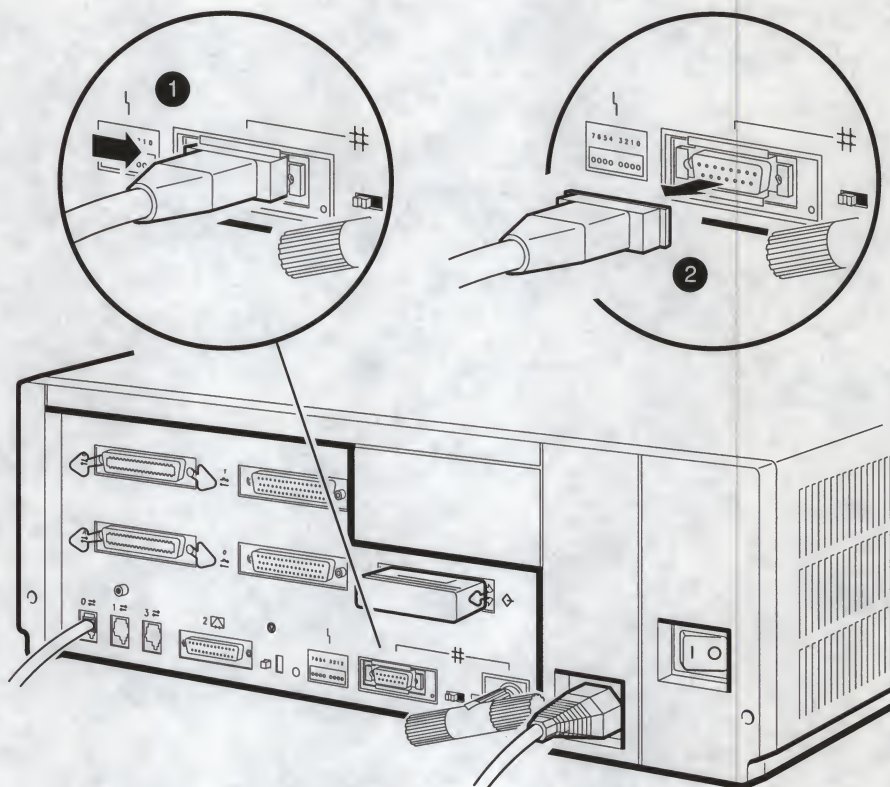
- ❶ T-Connector
- ❷ ThinWire Ethernet Cable

3.7.2 Removing the System Unit from a Standard Ethernet Transceiver Cable

To remove the system unit from a standard Ethernet transceiver cable, follow these steps:

1. Set the on/off switch on the back of the system unit to the off (O) position.
2. Push the sliding lock to the right (see Figure 3-7).
3. Disconnect the transceiver cable from the standard Ethernet connector on the back of the system unit (see Figure 3-7).

Figure 3-7 Disconnecting the System Unit from a Transceiver Cable



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- 1** Sliding Lock
- 2** Standard Ethernet Transceiver Cable

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Hardware Options

This chapter describes the hardware options of the MicroVAX 3100 Model 40 and Model 80. It also describes how to connect the external hardware options to the system. It includes information on the following:

- Internal hardware options
- External hardware options
- Connecting a SCSI expansion box
- Connecting peripherals

4.1 Internal Hardware Options

The system supports the following internal hardware options:

- **MS44 or MS44L memory modules**—The Model 40 system has 8M bytes of memory on the system module. You can connect up to 24M bytes of optional MS44 or MS44L memory modules, in 8M-byte increments, to Model 40 systems giving a maximum memory capacity of 32M bytes.

The Model 80 system does not have any memory on the system board, it uses only MS44 or MS44L memory modules. You can increase the memory capacity of the Model 80 system up to a maximum of 72M bytes in 8M-byte or 32M-byte increments.

- **Synchronous communications options**—The system supports the DSW42-AA synchronous communications option. This communications option provides two synchronous communications ports and allows you to connect the system to a peripheral that uses an EIA-232 (V.24) 25-pin connector. You can use other interface standards with this option if you order different cables. Table 4–1 lists each interface standard and the part number of the corresponding cable.

Table 4–1 Interface Standards and Cable Part Numbers

Interface Standard	Cable Part Number	Extension Cable Part Number
EIA-232/V.24	BC19D-02 ¹	BC22F- <i>nn</i> ³
EIA-423/V.10	BC19E-02 ²	BC55D- <i>nn</i> ⁴
EIA-422/V.11	BC19B-02 ²	BC55D- <i>nn</i> ⁴

¹Supplied with the DSW42-AA option.

²Optional cable, order separately.

³Optional cable, order separately. The value of *nn* represents the cable length in feet (10, 25, or 50).

⁴Optional cable, order separately. The value of *nn* represents the cable length in feet (25 or 50).

The BC19x-02 cables listed in Table 4–1 are 2-foot cables; extension cables are also available, but you must order them separately. Contact your Digital Sales representative for information on ordering any of the different cables that support these interface standards.

- Asynchronous communications options—The system supports three different asynchronous communications options. These options are as follows:
 - DHW42-AA—This asynchronous option provides eight asynchronous DEC423 data-line-only communications lines through one system port. You can connect up to eight peripherals using the MMJ ports on the harmonica (H3104) that connects to the option cable (BC16C-10).
 - DHW42-BA—This option is the same as the DHW42-AA, but provides 16 asynchronous DEC423 data-line-only communications lines through two system ports. You can connect up to 16 peripherals using the MMJ ports on two harmonicas (H3104) that connect to the option cables (BC16C-10).

Use the following cables instead of the BC16C-10 cable if you require longer cable lengths: BC16C-25, BC16C-50, BC16C-A0, or BC16C-B5. Use the following cables between the harmonica (H3104) and the DEC423 peripheral: BC16E-10, BC16E-25, or BC16E-50.

- DHW42-CA—This asynchronous option provides eight asynchronous EIA-232 modem control lines through two system ports using two breakout cables (BC29J-06).
- DHW42-UP—This upgrade option converts a DHW42-AA asynchronous option to a DHW42-BA option.

Attach one of the following cables to a connector on the breakout cable if you require longer cable lengths: BC22F-10, BC22F-25, or BC22F-50. The peripheral you are using may require a null-modem extension cable. See the peripheral documentation or contact your Digital Sales representative for information on the correct null-modem cable to use.

- SCSI storage devices—The system supports the following internal SCSI devices:
 - RZ23L, RZ24, and RZ25 hard disk drives
 - RX26 diskette drive
 - TZK10 (QIC) tape drive
 - TZ30 tape drive
 - RRD42 compact disc drive

Contact your Digital Sales representative for information on how to order any of these internal options. Your Digital Services representative installs the internal options for you.

4.2 External Hardware Options

The following sections contain information on connecting the external hardware options to the system unit. The external hardware options for the MicroVAX 3100 Model 40 and Model 80 include the following:

- SCSI expansion boxes
- Printers, terminals, modems, and other devices that use asynchronous or synchronous connectors

Your Digital Sales representative can give you information on how to order a full range of Digital SCSI expansion boxes, printers, terminals, modems, and other devices that are compatible with the MicroVAX 3100 Model 40 or Model 80 system.

4.3 Connecting a SCSI Expansion Box

The following subsections contain information on:

- Guidelines for connecting expansion boxes
- Selecting available SCSI IDs on the system
- Setting the SCSI ID of devices in the expansion box
- Preparing the system unit for an expansion box
- Connecting the SCSI cable
- Checking the expansion box connections

4.3.1 Guidelines for Connecting Expansion Boxes

Use the following guidelines when connecting expansion boxes:

- You can connect up to two expansion boxes (SZ12-series expansion boxes can contain two devices).
- The recommended maximum length of the SCSI cables (internal length plus external length) is 19.6 feet (6 metres).
- Each device in the expansion boxes must have a unique SCSI ID.
- You must attach the 50-pin terminator that comes with the expansion box to an unused SCSI connector on the back of an expansion box.
- Plug the expansion boxes into the same grounded power strip or electrical circuit.
- Do not connect more than two tape drive devices.

Caution

- Some expansion boxes are restricted to either 110 V ac or 220 V ac operation. Make sure that the voltage requirement of the expansion box used is compatible with the supply voltage.
 - Turn on the expansion boxes before you turn on the system unit. This procedure ensures that the device in each expansion box is ready for use and that the system firmware includes the device in the configuration display.
 - Do not connect or disconnect SCSI expansion boxes while the system is turned on. Doing so can cause damage to the equipment or corrupt data.
 - Digital cannot guarantee the correct operation of any SCSI bus that uses cable assemblies not supplied by Digital or not configured in accordance with these guidelines.
-

4.3.2 Selecting Available SCSI IDs on the System

You must identify which SCSI IDs are available before connecting an expansion box. Use the configuration display to determine this information. To see the configuration display, enter the following command:

>>> SHOW CONFIG

The system displays information similar to the following:

DEVNBR	DEVNAM	INFO
1	NVR	OK
3	DZ	OK
4	CACHE	OK
5	MEM	OK
		16MB = SY=8MB, S0/1=8MB, S2/3=0MB, S4/5= 0MB
6	FPU	OK
7	IT	OK
8	SYS	OK
9	NI	OK
10	SCSI	OK
		3-RZ24 6-INITR

- 1 Device 10 is the SCSI device. The letters OK indicate that it is functioning correctly.
- 2 This line shows the SCSI IDs that are occupied by devices on the SCSI bus. For example, the RZ24 disk drive occupies SCSI ID 3.

SCSI ID 6 is the default ID for the SCSI bus controller, INITR.

There are eight SCSI IDs, numbered from 0 to 7. Select any SCSI ID that is not occupied by another device.

4.3.3 Setting the SCSI ID of Devices in the Expansion Box

The expansion box devices have default SCSI IDs set at the factory before they are shipped. If the default ID of a device is occupied, you must reset the SCSI ID of the device to an unused ID. See Section 4.3.2 for information on determining selecting SCSI IDs. See the documentation supplied with the expansion box for information on setting the SCSI IDs.

Table 4-2 shows the SCSI IDs that Digital usually assigns to devices.

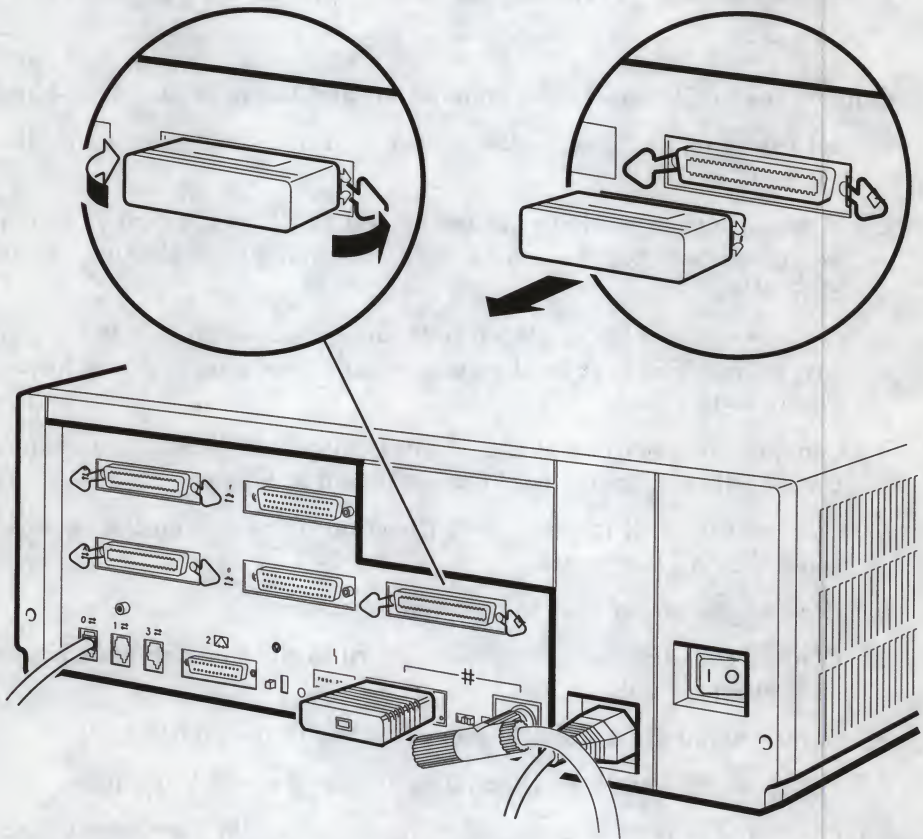
Table 4-2 Devices and Priorities Associated with SCSI IDs

SCSI ID	Priority	Devices
0	Lowest	Disk drive
1 to 3		Disk drive (SCSI ID 3 is normally the system disk)
4		CDROM or optical drive
5		Tape drive
6		SCSI controller
7	Highest	Not used, but available

4.3.4 Preparing the System Unit for an Expansion Box

To prepare the system unit for an expansion box, follow these steps:

1. Shut down the operating system using the procedure outlined in the operating system documentation.
2. Set the on/off switch on the system unit to the off (O) position.
3. Remove the SCSI terminator.
4. Keep the SCSI terminator. You must reattach it if you disconnect the expansion boxes from the system unit.



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4.3.5 Connecting the SCSI Expansion Box

Caution

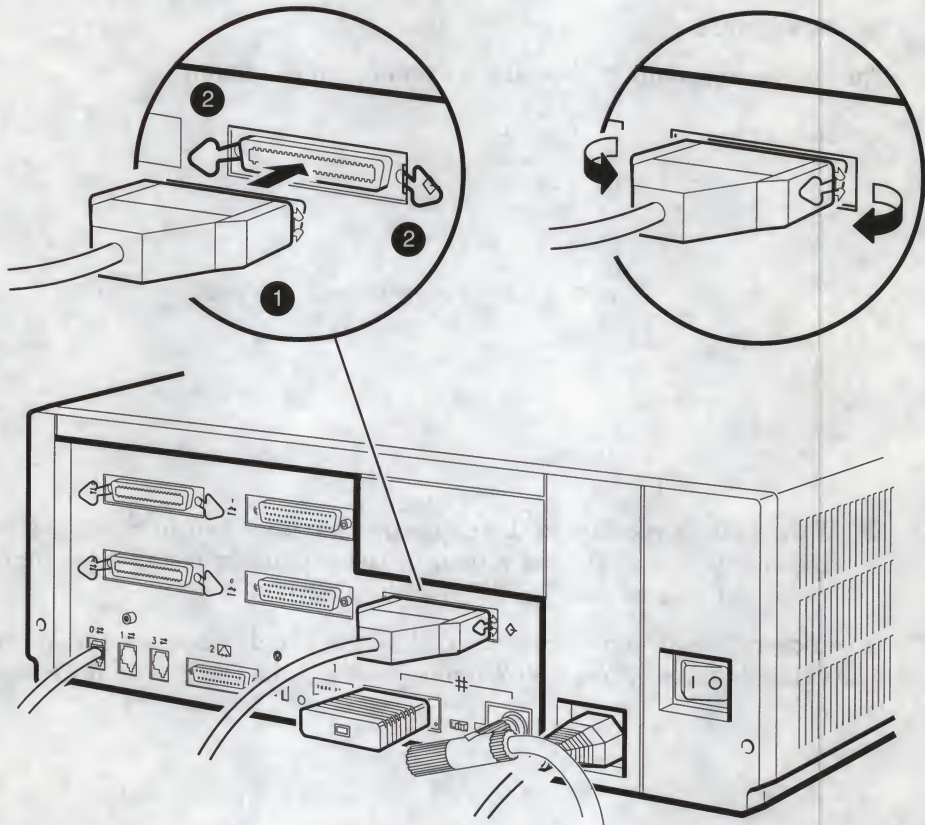
You must complete the procedures outlined in the following sections before you start the procedure in this section:

- Section 4.3, Connecting a SCSI Expansion Box
 - Section 4.3.1, Guidelines for Connecting Expansion Boxes
 - Section 4.3.2, Selecting Available SCSI IDs on the System
 - Section 4.3.3, Setting the SCSI ID of Devices in the Expansion Box
 - Section 4.3.4, Preparing the System Unit for an Expansion Box
-

Connect the SCSI cable to the system unit and to the expansion box as follows:

1. Set the on/off switches on the system unit and the expansion box to the off (O) position.
2. Make sure that you have set the correct SCSI ID for each device in the expansion box. See Section 4.3.2 for information on selecting the available SCSI IDs.
3. Connect one end of the 50-pin to 50-pin cable, supplied with the expansion box, to the SCSI port on the system unit. Close the bail lock loops. See Figure 4-1.
4. Connect the other end of the 50-pin to 50-pin cable to either of the SCSI ports on the expansion box. Close the bail lock loops.
5. Connect the SCSI terminator to the other SCSI port on the expansion box. Close the bail lock loops.
6. Connect the power cord to the expansion box.
7. Connect the other end of the power cord to the same grounded power strip or electrical circuit.
8. Set the on/off switch on the expansion box to the on (I) position.
9. Set the on/off switch on the system unit to the on (I) position.
10. Check the system to ensure that it recognizes the connection. See Section 4.3.6 for information on checking expansion box connections.

Figure 4-1 Connecting the SCSI Cable



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- 1** SCSI Cable
- 2** Bail Lock Loop

4.3.6 Checking Expansion Box Connections

Enter the following command to check the expansion box connections:

>>> SHOW CONFIG

The system responds with a display similar to the following:

DEVNBR	DEVNAM	INFO
1	NVR	OK
3	DZ	OK
4	CACHE	OK
5	MEM	OK
		16MB = SY=8MB, S0/1=8MB, S2/3=0MB, S4/5= 0MB
6	FPU	OK
7	IT	OK
8	SYS	OK
9	NI	OK
10	SCSI	OK
		2-RZ55 3-RZ24 6-INTR ❶
11	AUD	OK

- ❶ If the system recognizes the expansion box that you have connected, this line contains the IDs and names of the expansion box devices that you connected, in this case an RZ55 with SCSI ID 2.

If you do not see the names and SCSI IDs of the devices, see the *MicroVAX 3100 Model 40 and Model 80 Troubleshooting and Diagnostic Information* manual.

4.4 Connecting Peripherals

The following subsections contain information on the following:

- Connecting peripherals to a DEC423 MMJ port
- Connecting a peripheral to the asynchronous modem control port (port 2)
- Connecting peripherals to an optional asynchronous port
- Connecting peripherals to an optional synchronous port

4.4.1 Connecting Peripherals to a DEC423 MMJ Port

To connect peripherals that use DEC423 cables (BC16E) to MMJ ports 0, 1, or 3, follow these steps:

1. Set the on/off switch on the peripheral to the off (O) position.
2. Connect one end of the DEC423 cable to either MMJ port 0, 1, or 3 (see Figure 4-2).

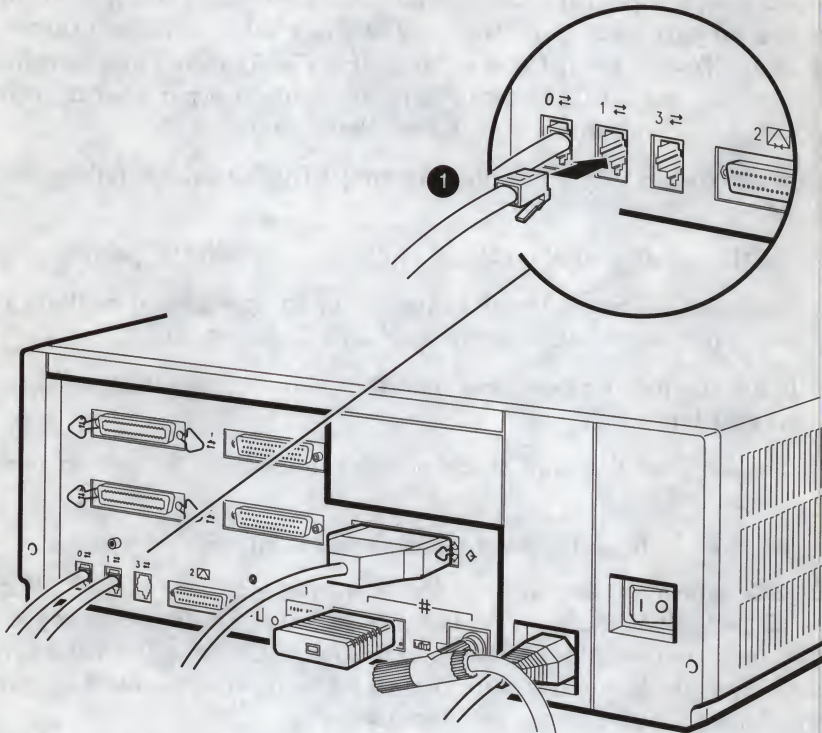
Note

In some countries, the peripheral cable has an earth drain wire. Connect this earth drain wire to the grounding pillar above MMJ port 1 using the screw provided with the cable.

3. Connect the other end of the DEC423 cable to the correct port on the peripheral.
4. Set the on/off switch on the peripheral to the on (I) position.

BC16E cables are available in the following lengths: 10 feet (BC16E-10), 25 feet (BC16E-25), or 50 feet (BC16E-50).

Figure 4-2 Connecting a Peripheral to MMJ Port 1



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- ❶ DEC423 Peripheral Cable

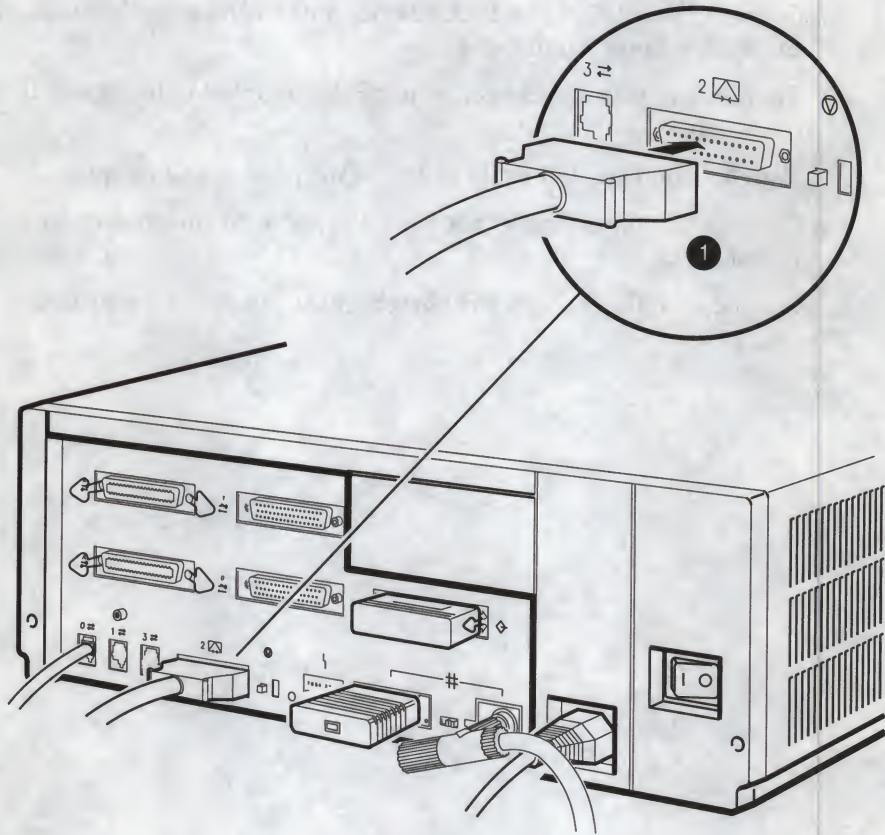
4.4.2 Connecting a Peripheral to the Asynchronous Modem Control Port

You can connect peripherals that use EIA-232 connectors to the asynchronous modem control port (port 2) on the back of the system unit. Alternatively, the supplied EIA-232 to DEC423 adapter (H8575-A) allows you to connect peripherals that use DEC423 connectors. To connect a peripheral to the asynchronous modem control port, follow these steps:

1. If you are connecting a peripheral using EIA-232 cables, follow these steps:
 - a. Set the on/off switch on the peripheral to the off (O) position.
 - b. Connect the 25-pin D-sub connector of the peripheral cable to the asynchronous modem control port (see Figure 4-3).
 - c. If the connector has screws on either side, tighten them using a small screwdriver.
 - d. Connect the other end of the peripheral cable to the correct port on the peripheral.
 - e. Set the on/off switch on the peripheral to the on (I) position.

EIA-232 cables are available in the following lengths: 10 feet (BC22F-10), 25 feet (BC22F-25), or 50 feet (BC22F-50). The peripheral you are using may require a null-modem extension cable. See the peripheral documentation or contact your Digital Sales representative for information on the correct null-modem cable to use.

Figure 4-3 Connecting a Peripheral to the Asynchronous Modem Control Port

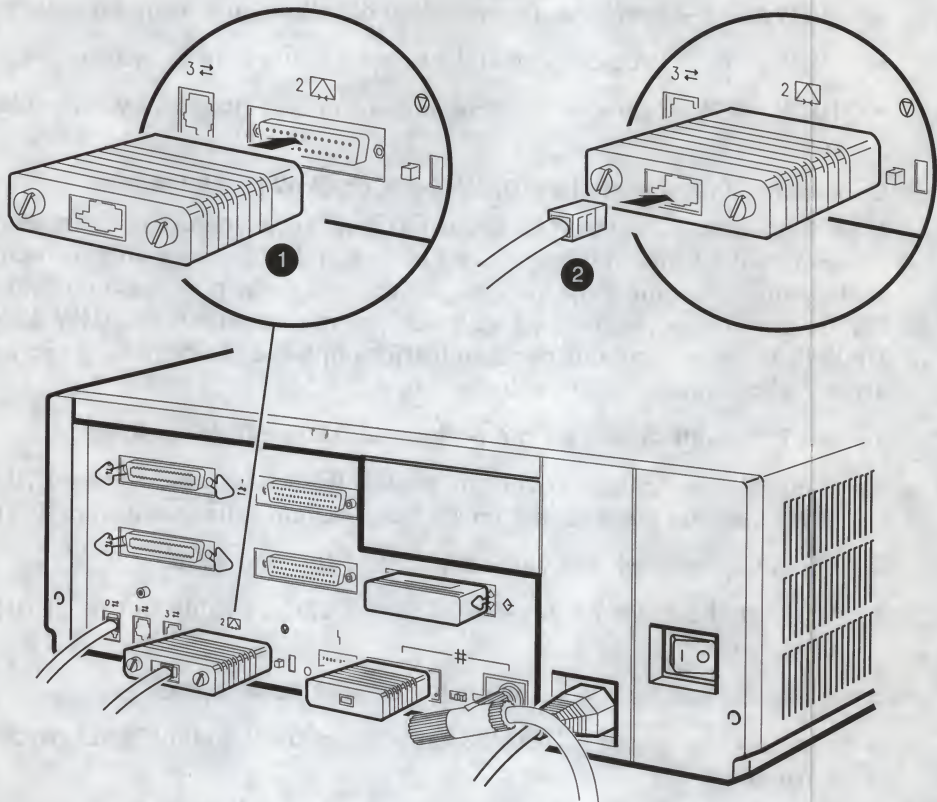


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1 EIA-232 Connector

2. If you are connecting a peripheral using DEC423 cables, follow these steps:
 - a. Set the on/off switch on the peripheral to the off (O) position.
 - b. Connect the EIA-232 to DEC423 adapter to the asynchronous modem control port (see Figure 4-4).
 - c. Tighten the screws on each side of the adapter using a small screwdriver.
 - d. Connect the DEC423 cable to the MMJ port on the adapter.
 - e. Connect the other end of the DEC423 cable to the correct port on the peripheral.
 - f. Set the on/off switch on the peripheral to the on (I) position.

Figure 4-4 Connecting a Peripheral to the Asynchronous Modem Control Port Using an EIA-232 to DEC423 Adapter



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- ❶ EIA-232 to DEC423 Adapter (H8575-A)
- ❷ DEC423 MMJ Connector

4.4.3 Connecting Peripherals to an Optional Asynchronous Port

There are three asynchronous communications options for the MicroVAX 3100 Model 40 and Model 80:

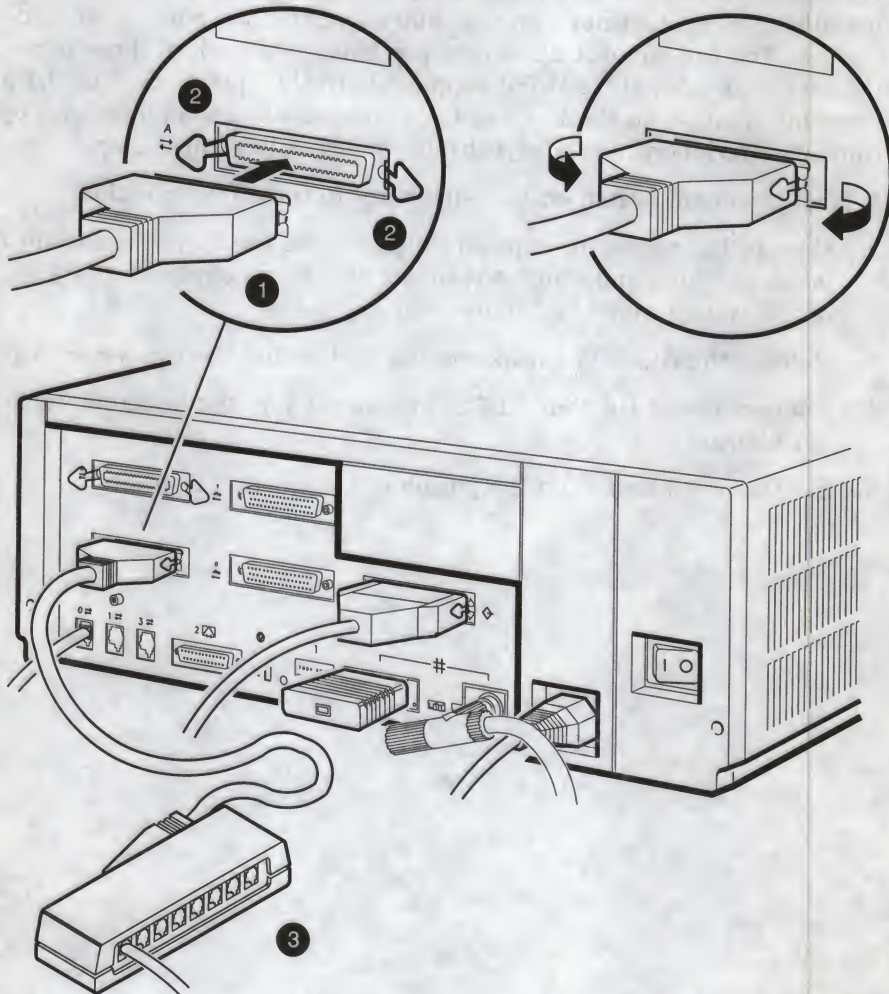
- DHW42-AA—Provides one eight-line data-line-only asynchronous port
- DHW42-BA—Provides two eight-line data-line-only asynchronous ports
- DHW42-CA—Provides two four-line asynchronous ports with modem control

Connecting Peripherals to a DHW42-AA or DHW42-BA Option

If the system has the DHW42-AA or DHW42-BA asynchronous communications option installed, the system has one or two eight-line data-only asynchronous ports. You can connect up to eight peripherals to each of these ports using the H3104 harmonica. Section 4.1 gives more information on the DHW42-AA and DHW42-BA asynchronous communications options. To connect a peripheral to an asynchronous port, follow these steps:

1. Set the on/off switch on the peripheral to the off (O) position.
2. Connect the straight connector of the BC16C-10 cable to one of the asynchronous ports on the back of the system unit (see Figure 4-5).
3. Close the bail lock loops on each side of the connector.
4. Connect the angled connector of the BC16C-10 cable to the H3104 harmonica.
5. Close the bail lock loops on each side of the connector.
6. Connect one end of a DEC423 cable to one of the eight MMJ ports on the harmonica.
7. Connect the other end of the DEC423 cable to a DEC423 port on the peripheral.
8. Set the on/off switch on the peripheral to the on (I) position.

Figure 4-5 Connecting a Peripheral to Asynchronous Port A



RE_EN06321A_91

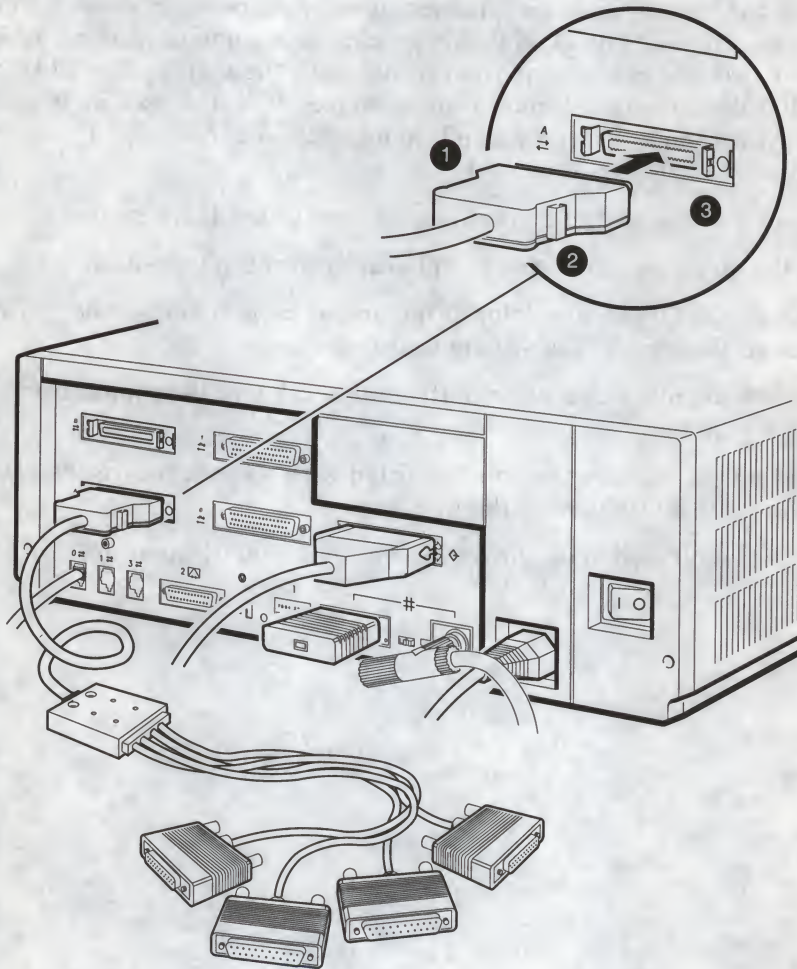
- 1** Asynchronous Option Cable (BC16C-10)
- 2** Bail Lock Loops
- 3** Harmonica

Connecting Peripherals to a DHW42-CA Option

If the system has the DHW42-CA asynchronous communications option installed, the system has two four-line asynchronous ports with modem control. You can connect up to four peripherals to each of these ports using the breakout cable (BC29J-06) supplied with the option. Section 4.1 gives more information on the DHW42-CA asynchronous communications option. To connect a peripheral to an asynchronous port, follow these steps:

1. Set the on/off switch on the peripheral to the off (O) position.
2. Hold in the connector clips on either side of the 50-pin connector of the breakout cable and connect it to one of the asynchronous ports on the back of the system unit (see Figure 4-6).
3. Release the clips. The hooks on the port secure the connector in place.
4. Connect one of the four EIA-232 connectors on the breakout cable to the peripheral.
5. Set the on/off switch on the peripheral to the on (I) position.

Figure 4-6 Connecting a Peripheral to Asynchronous Port A (DHW42-CA)



RE_EN06323A_91

- ❶ Asynchronous Option Breakout Cable (BC29J-06)
- ❷ Connector Clip
- ❸ Hook

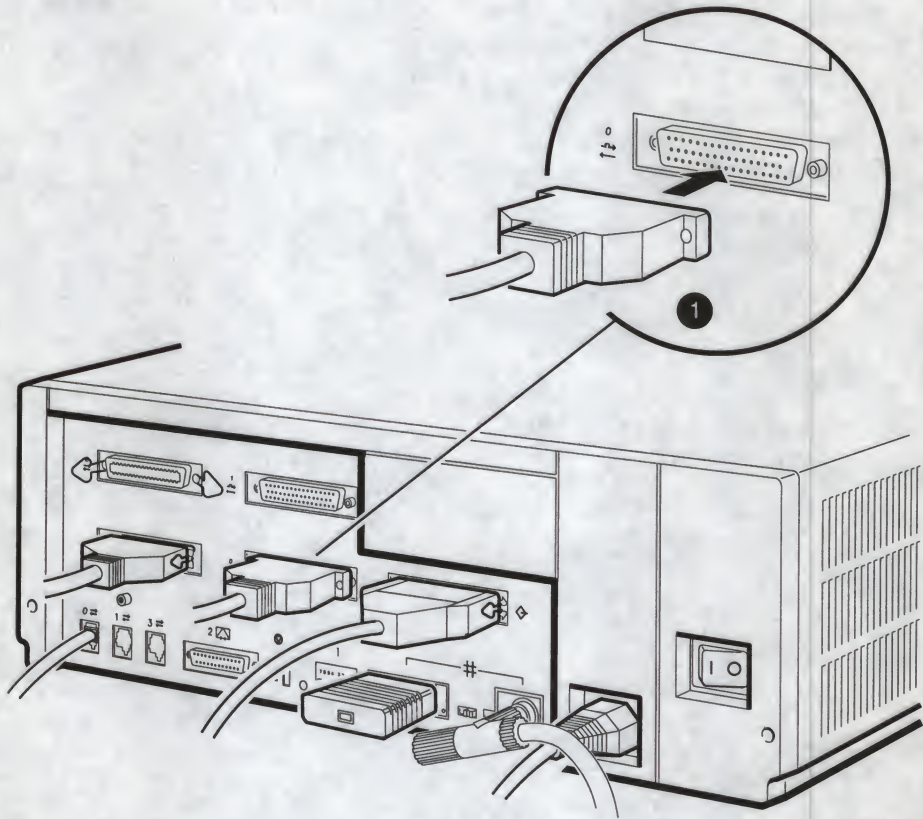
4.4.4 Connecting Peripherals to an Optional Synchronous Port

If the system has the DSW42-AA synchronous communications option installed, the system has two synchronous modem ports. Section 4.1 gives more information on the DSW42-AA synchronous communications option. Table 4-1 lists the cables that you can use with the option. The EIA-232/V.24 cable (BC19D-02) is the standard cable shipped with the option. If you are using a synchronous interface standard other than EIA-232/V.24, use one of the optional cables listed in Table 4-1.

To connect a peripheral to a synchronous port, follow these steps:

1. Set the on/off switch on the peripheral to the off (O) position.
2. Connect the 50-pin connector of the option cable to one of the synchronous ports on the back of the system unit (see Figure 4-7).
3. Connect the other connector of the option cable to the communications port on the peripheral.
4. If the option cable connectors are fitted with screws, secure the connectors to the ports by tightening them on each side.
5. Set the on/off switch on the peripheral to the on (I) position.

Figure 4-7 Connecting a Peripheral to Synchronous Port 0



RE_EN06322A_91

1 Synchronous Option Cable

1. *Diagram of the structure of the*

cell wall of a plant cell.



2. *Diagram of the structure of the*

cell wall of a plant cell.

Associated and Related Documents

This appendix lists the associated and related documents. Some of the following documents may not be available in every country. Contact your Digital Sales representative for information on the availability of particular documents.

A.1 Associated Documents

The following documents contain information on the MicroVAX 3100 Model 40 and Model 80:

- *MicroVAX 3100 Model 40 and Model 80 Cover Letter* (EK-A0517-CL.001)
- *MicroVAX 3100 Model 40 and Model 80 Installation Information* (EK-A0523-IN.001)
- *MicroVAX 3100 Model 40 and Model 80 Customer Technical Information* (EK-A0525-TD.001)
- *MicroVAX 3100 Model 40 and Model 80 Troubleshooting and Diagnostic Information* (EK-A0518-TM.001)

VMS Factory Installed Software (FIS) Documentation

The following document contains information on VMS FIS:

- *VMS Factory Installed Software User Guide* (EK-A0377-UG)

A.2 Related Documents

The following documents contain information related to the system:

Internal Removable Media Device Documentation

- *TZ30 Cartridge Tape Drive Subsystem Owner's Manual* (EK-OTZ30-OM)
- *TZK10 Cartridge Tape Drive Owner's Guide* (EK-TZK10-OG)
- *RX26 Diskette Drive Owner's Reference Card* (EK-RX26D-RC)
- *RRD42 Disc Drive Owner's Manual* (EK-RRD42-OM)

VAX Handbook Series

- *VAX Architecture Handbook* (EB-19580-20)
- *VAX Software Handbook* (EB-21812-20)

DECconnect System Documentation

- *DECconnect System General Description* (EK-DECSY-GD)
- *DECconnect System Requirements Evaluation Workbook* (EK-DECSY-EG)
- *DECconnect System Installation and Verification Guide* (EK-DECSY-VG)
- *DECconnect System Standalone ThinWire Networks: Planning and Installation Guide* (EK-DECSY-TG)
- *DECconnect System Planning and Configuration Guide* (EK-DECSY-CG)
- *Workstations Network Guide* (EK-VS315-GD)

Removable Storage Media

This appendix contains information on the use and storage of the following media types that are used by the optional removable media storage devices:

- Tape cartridges
- QIC tapes
- Diskettes
- Compact discs

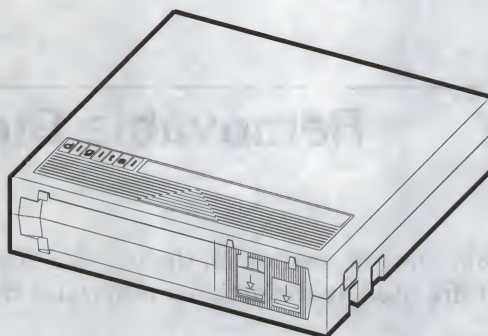
B.1 Tape Cartridges

The CompacTape cartridge (see Figure B-1) is a 10 cm by 10 cm (4 inches by 4 inches) plastic tape cartridge that can be used by TZ30 or TK50 tape drives. The TZ30 tape drive is supplied with a CompacTape.

The CompacTape II is the successor to the CompacTape cartridge. The CompacTape II has tighter tolerances than the CompacTape, which support the higher recording densities of the TK70. The CompacTape and the CompacTape II (when used with TZ30 and TK50 tape drives) have a capacity of 95M bytes.

The TZ30 can use a CompacTape or CompacTape II cartridge that was originally written by the TK50. If a CompacTape II cartridge written by a TK70 is used on a TZ30, the TZ30 automatically unloads the tape cartridge, because the TZ30 cannot read the tape cartridge. The green LED flashes, indicating a tape error.

Figure B-1 CompacTape Cartridge



RE_EN06137A_91

Table B-2 and Table B-1 show the compatibility of CompacTape and CompacTape II tape cartridges with TZ30, TK50, and TK70 tape drives.

Table B-1 Noninitialized Cartridge Compatibility

	CompacTape (TK50-K)	CompacTape II (TK52-K)
TZ30 drive	Yes	Yes
TK50 drive	Yes	Yes
TK70 drive	No	Yes

Table B-2 Initialized Cartridge Compatibility

	TK50 Drive	TK70 Drive	TZ30 Drive
TZ30 initialized cartridge	R/W ²	R ¹	R/W
TK50 initialized cartridge	R/W	R	R/W
TK70 initialized cartridge	NC ³	R/W	NC

¹Read only

²Read/write

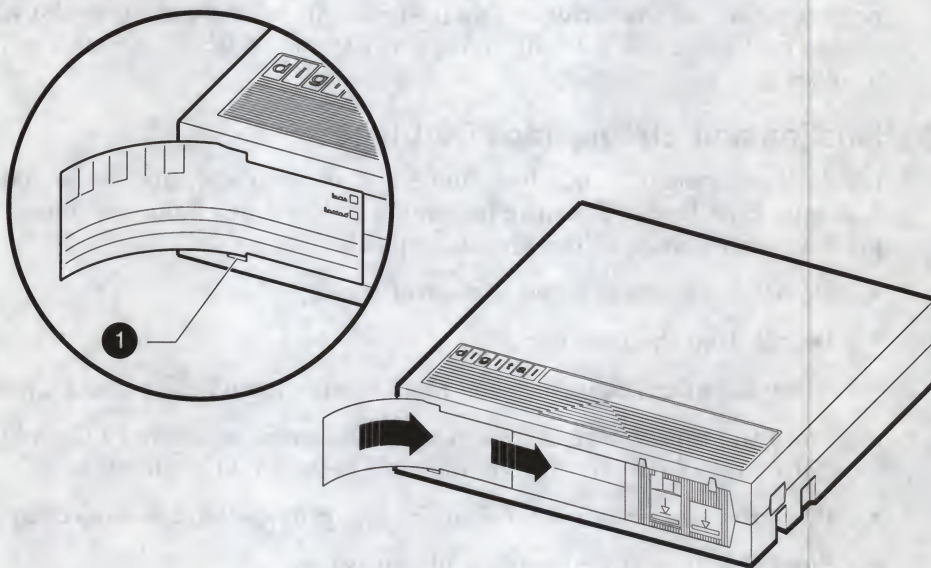
³Not compatible

B.1.1 Labeling a Tape Cartridge

Always label tape cartridges. There is a slot for the label on the front of the cartridge. The label is visible when the cartridge is in the drive. Labels or markings on any other part of the cartridge can interfere with the proper operation of the drive. Do not write on the cartridge with a pen, pencil, or other marking instrument.

The labels supplied with the CompacTape II cartridges have spaces that mark the capacity of the tape cartridge. If a TK50 or TZ30 wrote data to the tape cartridge, mark the 95M-byte block on the label. If a TK70 wrote data to the tape cartridge, mark the 296M-byte block on the label.

If you use TK70 and TZ30 drives, note that the TZ30 is unable to read or write tapes that have originally been written to by the TK70. However, the TK70 can read tapes written by the TZ30 or the TK50.



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❶ Label Slot

B.1.2 Writing to and Write-Protecting Tape Cartridges

CompacTape and CompacTape II cartridges have a write-protect switch that prevents an accidental overwrite of data. The system can read information on the tape regardless of the position of the write-protect switch. However, the system cannot write data to a write-protected tape.

Write-Protecting a Tape

When you use a tape to install software, set the write-protect switch on the front of the cartridge to the write-protect position.

To write-protect a tape, set the write-protect switch to the write-protect position by sliding it left towards the label until it locks in place (see Figure B-2). An orange rectangle appears when the write-protect switch locks in the write-protect position.

Writing to a Tape

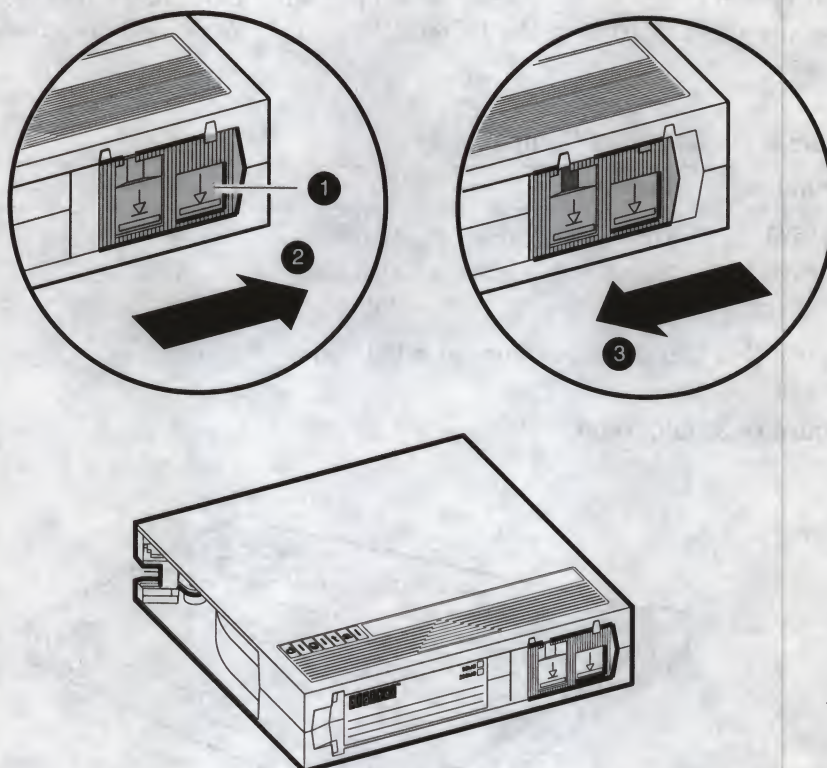
When you use a tape to make a backup copy or to write data, set the write-protect switch to the write-enable position. To set the switch to the write-enable position, slide it to the right, away from the label, until the switch locks in place.

B.1.3 Handling and Storing Tape Cartridges

Inside the cartridge, a 600-foot single reel of magnetic tape stores data. A plastic tape leader is at the beginning of the tape. Take the following precautions when handling and storing tapes:

- Do not touch the exposed surface of the tape.
- Do not drop the tape cartridge.
- Allow tape cartridges to reach room temperature before using them.
- Store the tape where the room temperature is between 10°C and 40°C (50°F and 104°F) and the humidity is between 20% and 80%.
- Place the identification label in the slot provided on the tape cartridge.
- Store the tape cartridge in its plastic cover.
- Do not expose the tape to direct sunlight, heat, magnetic fields, or X-rays.

Figure B-2 Write-Protect Switch Positions



RE_EN06139A_91

- ❶ Write-Protect Switch
- ❷ Write-Enable Position
- ❸ Write-Protect Position

B.2 Quarter-Inch Cartridge (QIC) Tapes

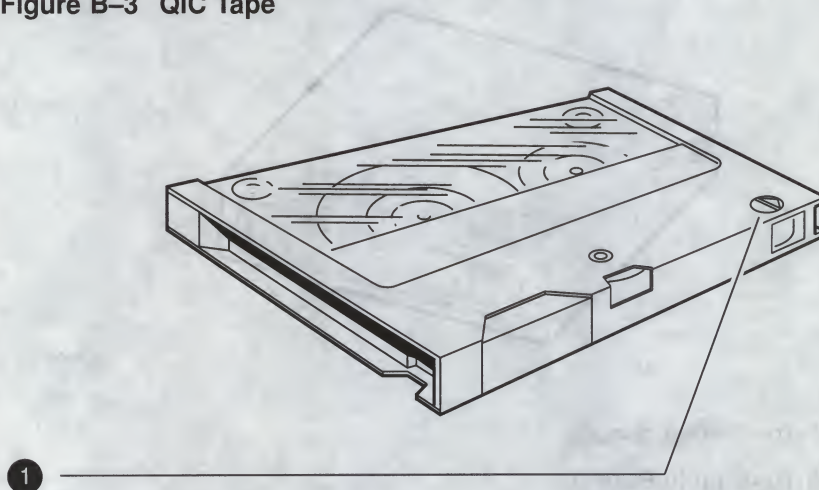
The TZK10 cartridge tape drive is shipped with a DC6320 QIC tape. You can also use the TZK10 with the DC6525 QIC tape. Table B-3 describes both QIC tapes.

Table B-3 Cartridge Compatibility

Cartridge	Capacity	Format	R/W
DC6525	Up to 525M bytes	QIC-525	R/W
DC6320	Up to 320M bytes	QIC-320	R/W

Figure B-3 identifies the parts of a QIC tape.

Figure B-3 QIC Tape



RE_EN06142A_91

- ❶ Write-Protect Switch

B.2.1 Guidelines for Using QIC Tapes

Use the following guidelines when using QIC tapes:

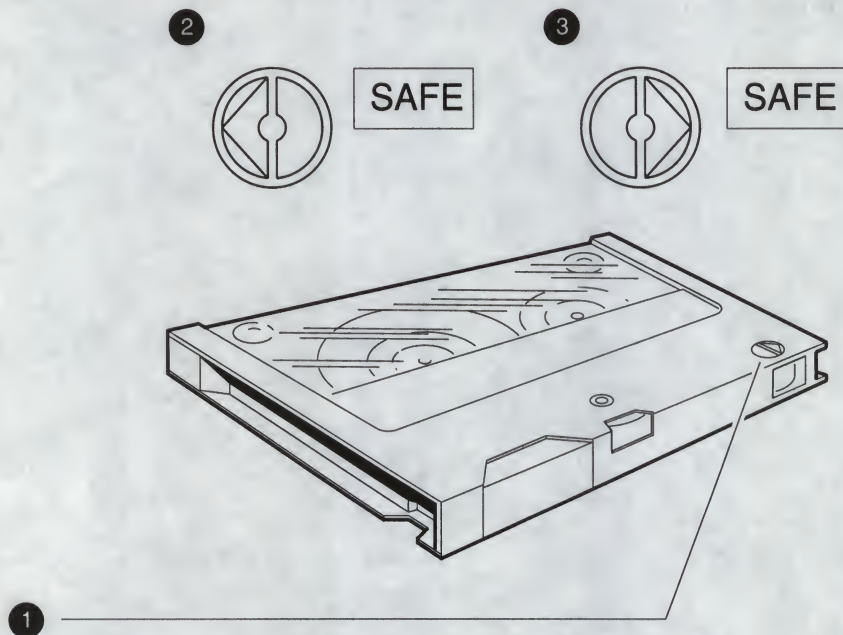
- Do not drop the tape.
- Store the tape where the room temperature is between 10°C and 40°C (50°F and 104°F) and the humidity is between 20% and 80%.
- Do not expose the tape to direct sunlight, abrasive particles, or electromagnetic fields.
- Store the QIC tape in its protective container, placed on its edge, or stacked. Do not stack QIC tapes more than five high.
- Place the identification label in the space provided on the top of the QIC tape.



B.2.2 Setting the QIC Tape Write-Protect Switch

There is a write-protect switch on one corner of the QIC tape. This switch allows you to write-protect the data on the tape. After writing data to the QIC tape, write-protect the tape to prevent accidental erasure or overwriting of that data. Use the write-protect switch as follows:

- Turn the write-protect switch to the safe (write-protect) position when you want to protect the data on the tape, or when you want to read or copy data from the tape.
- Turn the write-protect switch to the write-enable position when you want to write data to the tape.



RE_EN06143A_91

- ① Write-Protect Switch
- ② Write-Enable Position
- ③ Write-Protect Position

B.3 Diskettes

Diskettes are magnetic disks that store information. Digital recommends that you use either high-density (HD) or extra-density (ED) diskettes. ED diskettes have a capacity of 2.88M bytes and HD diskettes have a capacity of 1.44M bytes.

Keep the diskettes dry, out of extreme temperatures and direct sunlight, and away from devices that contain magnets, such as telephones.

B.3.1 Writing to and Write-Protecting Diskettes

Write-protecting a diskette prevents accidental erasure of information. The RX26 diskette drive can read information on the diskette regardless of the position of the write-protect switch. However, the system cannot write data to a write-protected diskette.



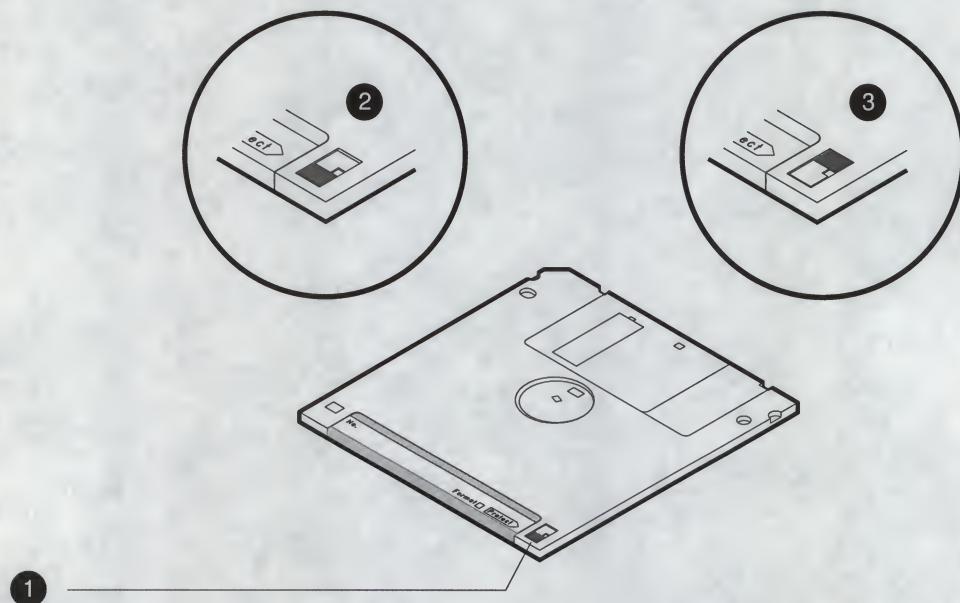
Write-Protecting a Diskette

When you use a diskette to install application software on the system or to protect information on the diskette, set the write-protect switch on the back of the diskette to the write-protect position by moving the switch down until it locks in place (see Figure B-4).

Writing to a Diskette

When you use a diskette to make a backup copy of a file or to write data to a diskette, set the write-protect switch to enable writing to the diskette. To enable writing, set the switch to the write-enable position by moving it up, until it locks in place.

Figure B-4 Write-Protect Switch Positions



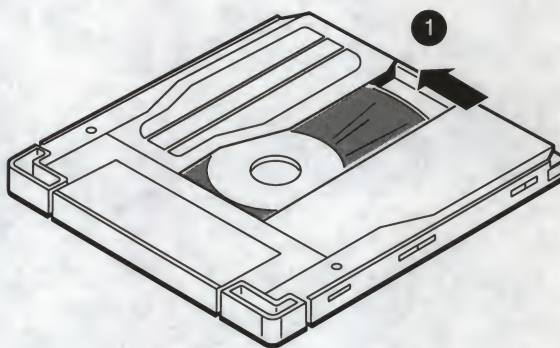
RE_EN06141A_91

- ❶ Write-Protect Switch
- ❷ Write-Protect Position
- ❸ Write-Enable Position

B.4 Compact Discs

When you use the RRD42 compact disc drive, you insert the disc, enclosed in a caddy, into the drive. You must take the following precautions when handling discs and caddies:

- Do not drop the disc or the caddy.
- The shutter on the caddy automatically opens when you insert it into the RRD42. Do not open the caddy manually or touch the disc.



RE_EN06144A_91

① Caddy Shutter

- Do not disassemble the caddy; it is precisely adjusted for use with the RRD42.
- Remove the caddy from the RRD42 before moving the MicroVAX 3100 Model 40 or Model 80.
- Do not expose the compact disc or caddy to any of the following:
 - High humidity
 - High temperature
 - Excessive dust
 - Direct sunlight
- Hold the compact disc by its edges; never touch the surface.
- Use a proper compact disc cleaner to wipe the compact disc if it gets dirty.

Glossary

The glossary defines some of the technical terms used in this manual.

802.3

An Institute of Electrical and Electronics Engineers (IEEE) standard describing the physical and data link layers of a local area network based on bus topology and Carrier Sense Multiple Access/Collision Detect (CSMA/CD).

backup copy

A copy of data stored on a disk.

backup process

The process of making copies of the data stored on a disk so that you can recover that data after an accidental loss. You make backup copies on tape cartridges or on another disk.

binary

A number system that uses two digits: 0 and 1. They are represented in system circuitry by two voltage levels, and programs are executed in binary form.

bit

A binary digit; the smallest unit of information in a binary system of notation, designated as a 0 or a 1.

bus

A channel (a set of wires) along which communication signals in a computer system travel.

byte

A group of 8 binary digits (bits). A byte is one-quarter of a VAX system longword.

caddy

The holder for inserting a compact disc into a compact disc drive.

central processing unit

See CPU.

communications line

A cable along which electrical signals are transmitted. Devices or systems that are connected by a communications line can share information and resources.

console mode

The state in which the computer is controlled from the console terminal. You can put the system in console mode by pressing the halt button on the back of the system unit. Console mode is indicated by the console prompt (>>>) on the monitor screen.

console prompt

A prompt used for communication between the system manager and the computer when the computer is in console mode.

controller

A system component, usually a printed circuit board, that regulates the operation of one or more peripheral devices.

CPU

Central processing unit. The part of the system that controls the interpretation and execution of instructions.

daisy-chain

A group of systems linked together sequentially.

data

A formal representation of information suitable for communication, interpretation, and processing by humans or computers.

DECconnect

Digital's simple, cost-effective cabling system for extending Ethernet and terminal interconnections into offices and work areas.

DECconnect faceplate

See faceplate.

default

A value or setting that in most cases is *normal* or *expected*.

DEMPR

A multiport repeater that provides eight ThinWire Ethernet drops from a single standard Ethernet connection.

device

The general name for any unit connected to the system that is capable of receiving, storing, or transmitting data.

device name

The name by which a device or controller is identified in the system.

diagnostics

Programs, located in read-only memory, that detect and identify abnormal system hardware operation. (See ROM.)

disk

A flat circular plate with a coating on which data is magnetically stored in concentric circles (tracks). A disk resides permanently inside a disk drive, while a diskette is removable.

disk drive

A device that holds a disk. The drive contains mechanical components that spin the disk and move the read/write heads that store and read information on the surface of the disk.

Ethernet

A type of local area network based on Carrier Sense Multiple Access with Collision Detection (CSMA/CD).

faceplate

A wall receptacle that provides a single network connection for the system.

file

A collection of related information treated by the system as a single unit.

format

To prepare a disk, diskette, or tape to accept data.

formatted data

Data that is structured in a particular pattern to be understood by the system software.

ground

A voltage reference point in a system that has a zero voltage potential.

hard disk

A hard disk resides permanently inside a disk drive.

hardware

The physical components—mechanical and electrical—that make up a system. (*Compare with* software.)

head

The part of a fixed disk drive, diskette drive, or tape drive that reads, records, and erases data. Also called read/write head.

IEEE

Institute of Electrical and Electronics Engineers.

LAN

Local area network. A high-speed communications network that covers a limited geographical area, such as a section of a building, an entire building, or a cluster of buildings. It is a privately owned communications network whose speed is upward of 1M bits/second.

LED

Light-emitting diode. LEDs are used as indicators on the system enclosure.

load

To copy software (usually from a peripheral device) to memory. To physically place a disk in a disk drive or a tape in a tape drive.

Local Area Network

See LAN.

magnetic tape

A tape used for storing data that is made of plastic and coated with magnetic oxide. Also called magtape.

memory

The area of the system that electrically stores instructions and data, often temporarily.

memory module

A printed circuit board that contains additional memory for the system.

module

A printed circuit board that contains electrical components and electrically conductive pathways between components. A module stores data or memory or controls the functions of a device.

multiport repeater

A repeater used to connect two or more cable segments. The repeater lets you extend Ethernet networks beyond the limits imposed by a single segment. Repeaters perform the basic actions of restoring signal amplitude, waveform, and timing amplitude to normal data and collision signals.

network

A group of individual computer systems that are connected by communications lines to share information and resources.

network co-ordinator

The network co-ordinator manages the network, assigns unique node names and addresses for each system on the network, and provides administrative assistance to network users.

node

An individual information-processing unit, such as a computer, workstation, or peripheral device, that is connected to a network. A node is an end point to any branch of a network or a junction common to two or more branches.

operating system

A collection of system programs that controls the operation of the system and allows the user to access data files, input/output devices, and applications programs. The operating system software performs such tasks as assigning memory to programs and data, processing requests, and scheduling jobs.

peripheral

A device that provides the CPU with additional memory storage or communication capability. Examples are disk and diskette drives, video terminals, and printers.

port

The name of the socket or connector at the back of the computer to which a terminal, printer, or other communication devices are connected.

printer

A peripheral device that provides paper copies of information stored on the system.

prompt

Words or characters that the system displays to indicate that it is waiting for you to enter a command.

RAM

Random-access memory. Memory that can be both read and written to and can randomly access any location during normal operations. The type of memory the system uses to store the instructions of programs currently being run. *Compare with* ROM.

random-access memory

See RAM.

read-only memory

See ROM.

ROM

Read-only memory. A memory whose contents cannot be modified. The system can use the data contained in a ROM but cannot change it. *Compare with* RAM.

SCSI

Small computer system interface. It is an interface designed for connecting disks and other peripheral devices to computer systems. SCSI is defined by an American National Standards Institute (ANSI) standard and is used by many computer and peripheral vendors throughout the industry.

Small computer system interface

See SCSI.

software

Programs executed by the system to perform a chosen or required function.
(*Compare with* hardware.)

standard Ethernet

IEEE standard 802.3 compliant Ethernet network composed of standard Ethernet cable as opposed to ThinWire Ethernet cable.

storage medium

Any device capable of recording information; for example, a diskette.

store

To enter data into a storage device, such as a disk, or into memory.

system

A combination of system hardware, software, and peripheral devices that performs specific processing operations.

tape drive

A device that contains mechanical components and holds, turns, reads, and writes on magnetic tape.

tape leader

A plastic leader at the beginning of magnetic tape.

tape lever

This lever sets internal TZ30 mechanisms to accept or eject the tape cartridge. Move the lever to the left to insert a tape, move to the right so the tape can be used, and move to the left again to eject the cartridge after the tape has been completely rewound.

T-connector

Connector used to join ThinWire Ethernet cable sections. The connector also has a connector that is attached directly to a system.

terminal

An input/output device that lets you communicate with the system. Terminals are divided into two categories: video and hard-copy.

terminator

A connector used on one or both ends of an Ethernet segment that provides the 50-ohm termination resistance needed for the cable.

ThinWire

A Digital trademark used to describe its 10 base 2 (IEEE standard 802.3 compliant) Ethernet products used for local distribution of data.

ThinWire connector

The connector on the back of the system unit to which the ThinWire Ethernet cable is attached.

transceiver

A device that provides a single physical connection between standard Ethernet and Ethernet communication equipment.

unload switch

A switch on the front of the TZ30 tape drive that rewinds and unloads the tape.

VMS

Digital's proprietary operating system.

write-protect

To protect a disk, diskette, or other storage medium from the addition, revision, or deletion of information.

write-protect switch

The switch that you set on tapes, cartridges, or diskettes to prevent loss of data by accidental overwriting.

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Model 40 and Model 80
Operator Information
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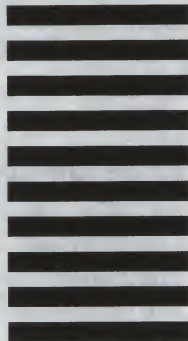
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